UNIVERSITÉ LAVAL
QUÉBEC, CANADA

DÉPARTEMENT DE MINES ET MÉTALLURGIE

L'INFLUENCE DE DIVERSES VARIABLES, DONT LA PRIME AU RENDEMENT, SUR LA PRODUCTIVITE MINIERE SOUTERRAINE AU QUEBEC

ANNEXE A

TITRE: L'INFLUENCE DE DIVERSES VARIABLES, DONT LA PRIME AU RENDEMENT, SUR LA PRODUCTIVITE MINIERE SOUTERRAINE AU QUEBEC.

ANNEXE A

PAR

MARCEL LAFLAMME

ET

JEAN-LUC COLLINS

DEPARTEMENT DE MINES ET METALLURGIE

UNIVERSITE LAVAL

LES TRAVAUX RELATIFS AU PRESENT PROJET ONT ETE EXECUTES SOUS L'EGIDE DU MINISTERE DE L'ENERGIE, DES MINES ET DES RESSOURCES DU CANADA, DU CENTRE DE RECHERCHES MINERALES DU QUEBEC ET DE L'ASSOCIATION MINIERE DU QUEBEC INC.

NUMERO DU DOSSIER DU MAS: 03SQ.23440-7-9182
NUMERO DE SERIE DU MAS: 23440-7-9182/01-SQ
NUMERO DE PROJET - EMR: UP-A7-007
NUMEROS DE PROJET - UL: 36-10-8209 ET 36-10-2889
NUMERO DE PROJET - C.R.M.-S.T.M. 86117
DELEGUE SCIENTIFIQUE - EMR: DR NOEL R. BILLETTE, ING.
DELEGUE SCIENTIFIQUE - CRM: LOUIS MARCOUX, ING.
DIRECTEUR GENERAL - AMQ: DR CLAUDE DROUIN, ING.

DATE: 30 MARS 1990

MICROMEDIA

343 pp

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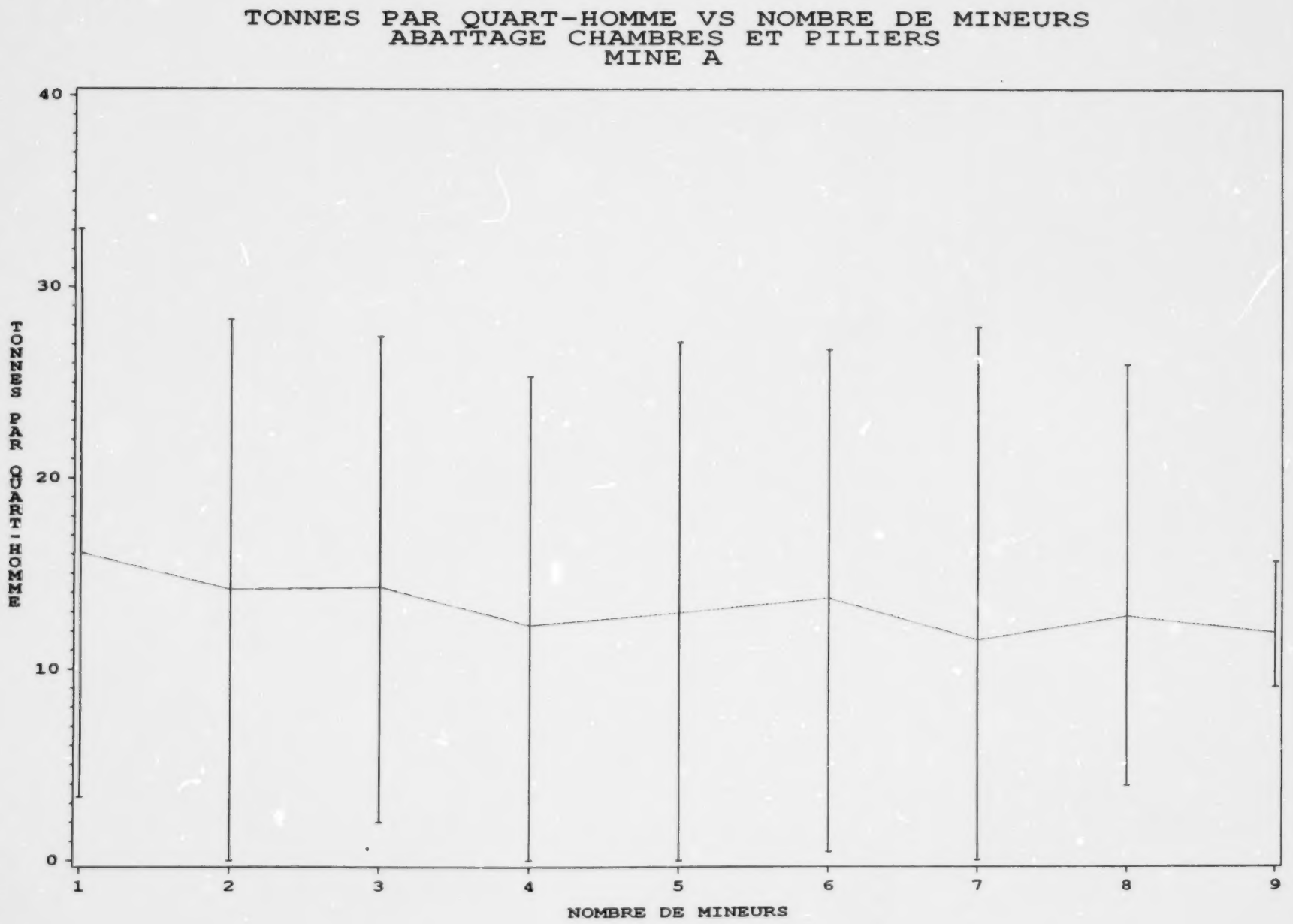

TONNES PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES ET PILIERS
MINE A
TONNES PAR QUART-HOMME
0
10
20
30
40
1
2
3
4
5
6
7
8
9
NOMBRE DE MINEURS

FIGURE A.1

TONNES PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES ET PILIERS
MINE A

BON TERRAIN

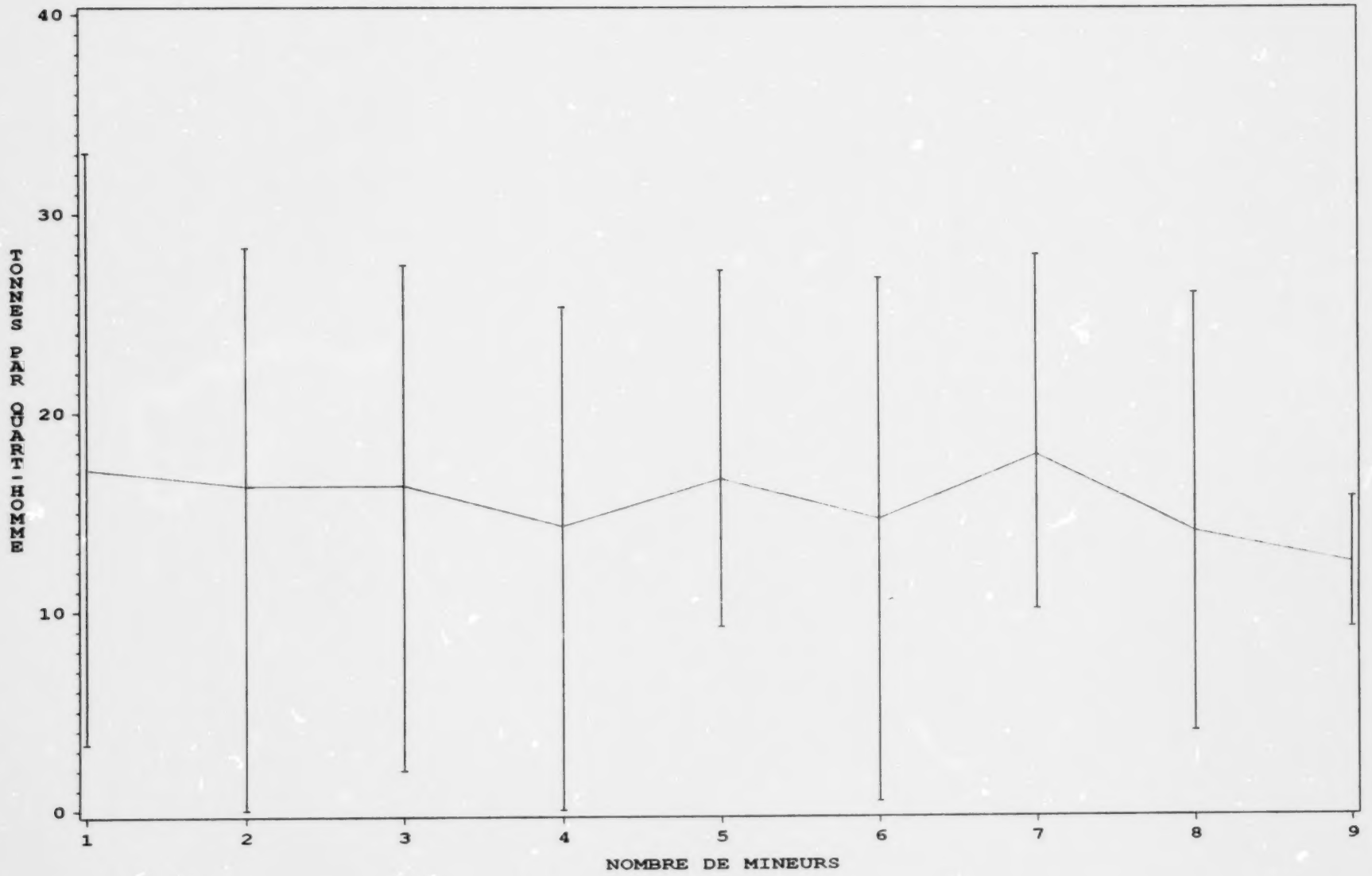


FIGURE A.2

TONNES PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES ET PILIERS
MINE A

MAUVAIS TERRAIN

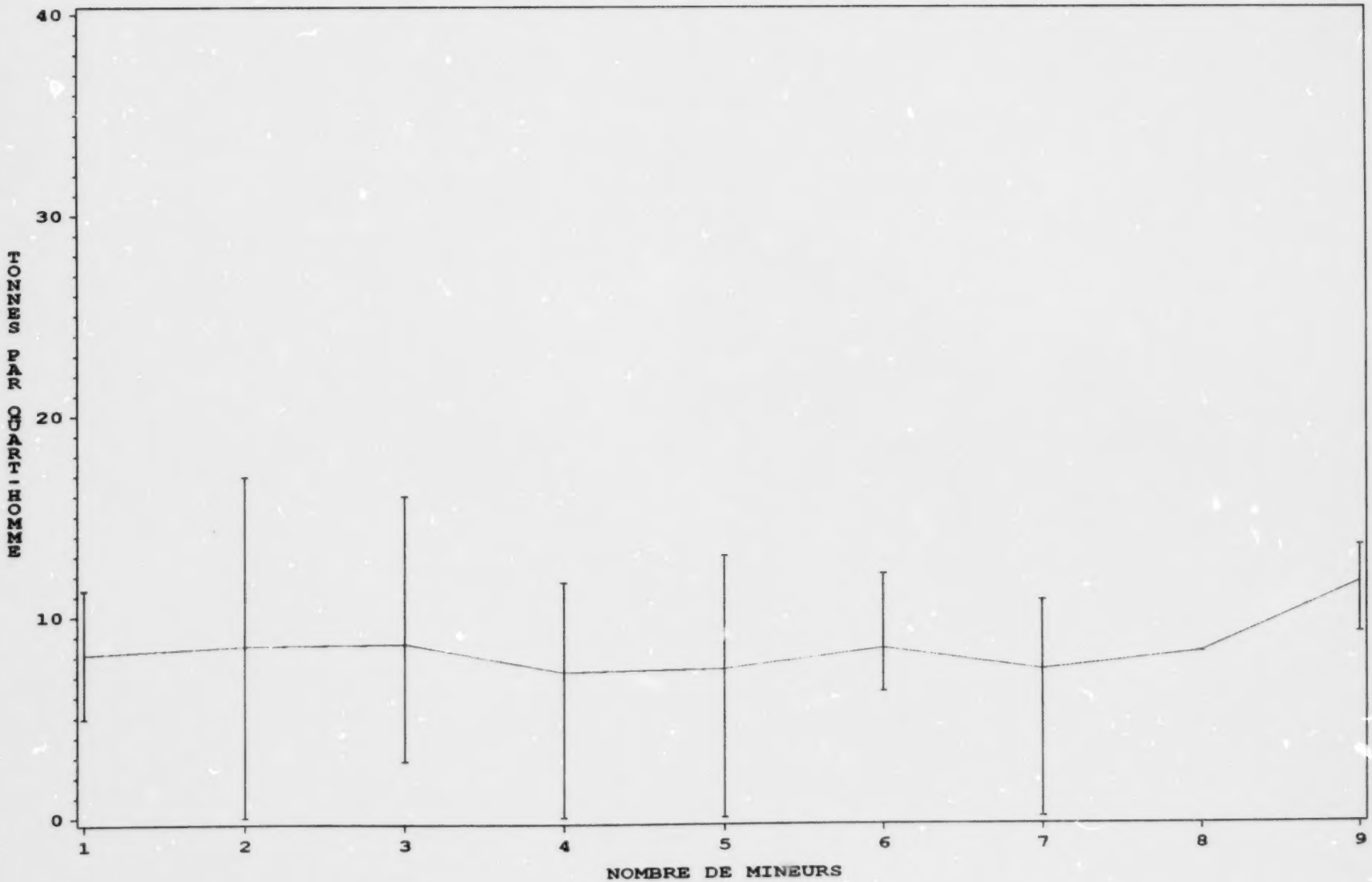


FIGURE A.3

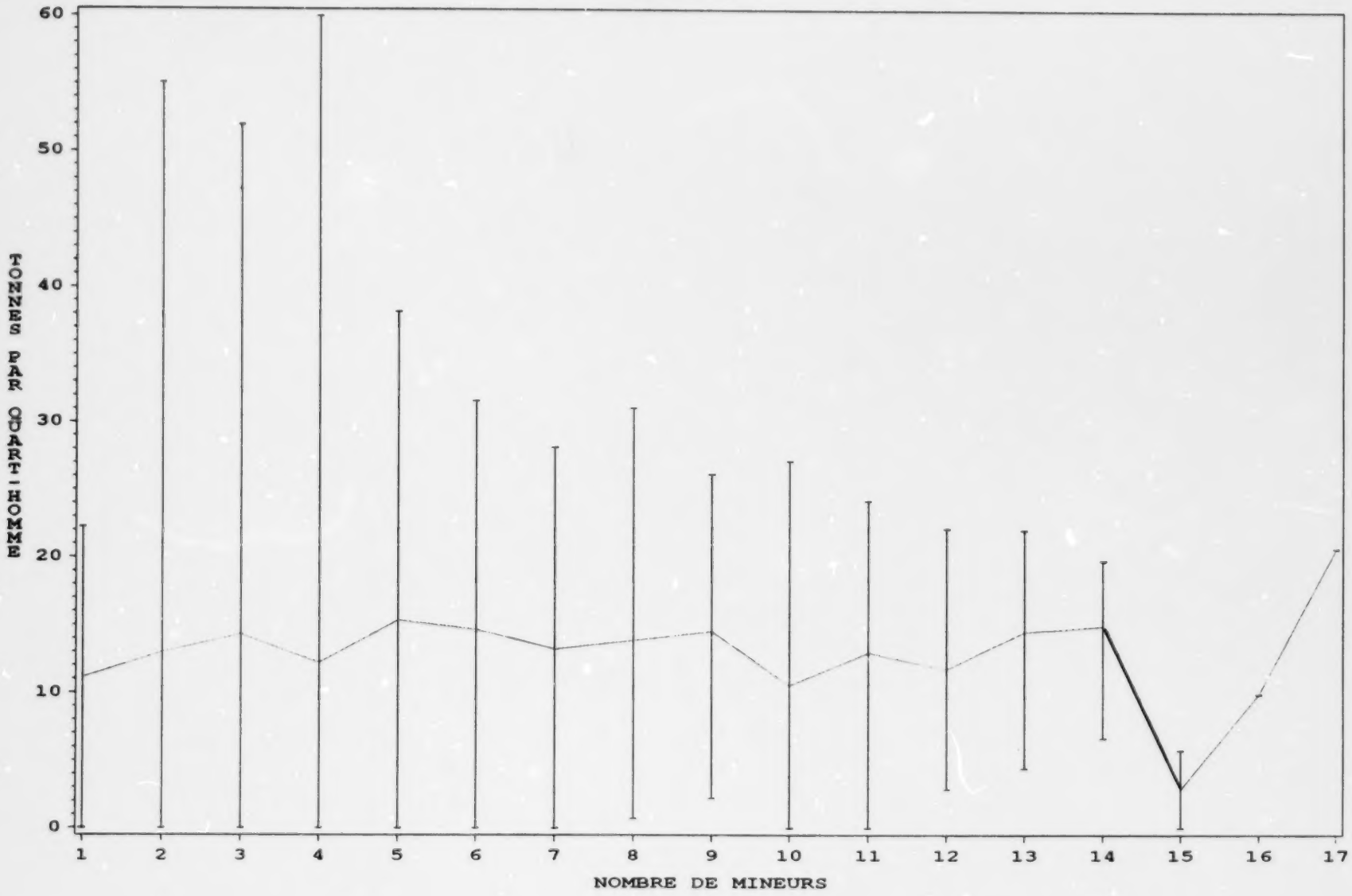

TONNES PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES REMBLAYEES
MINE A
TONNES PAR QUART-HOMME
0
10
20
30
40
50
60
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
NOMBRE DE MINEURS

FIGURE A.4

TONNES PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES REMBLAYEES
MINE A

BON TERRAIN

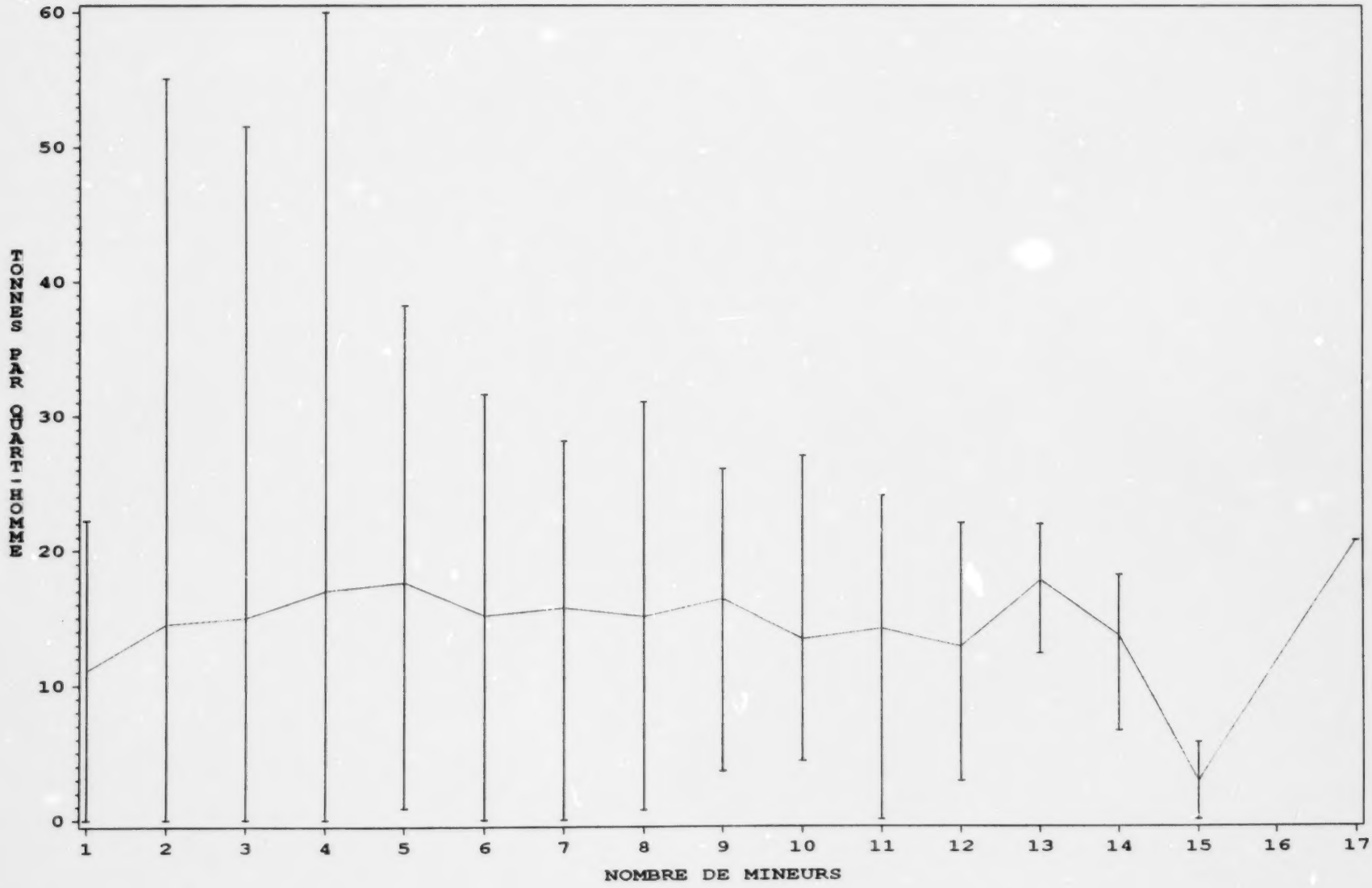


FIGURE A.5

TONNES PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES REMBLAYEES
MINE A

MAUVAIS TERRAIN

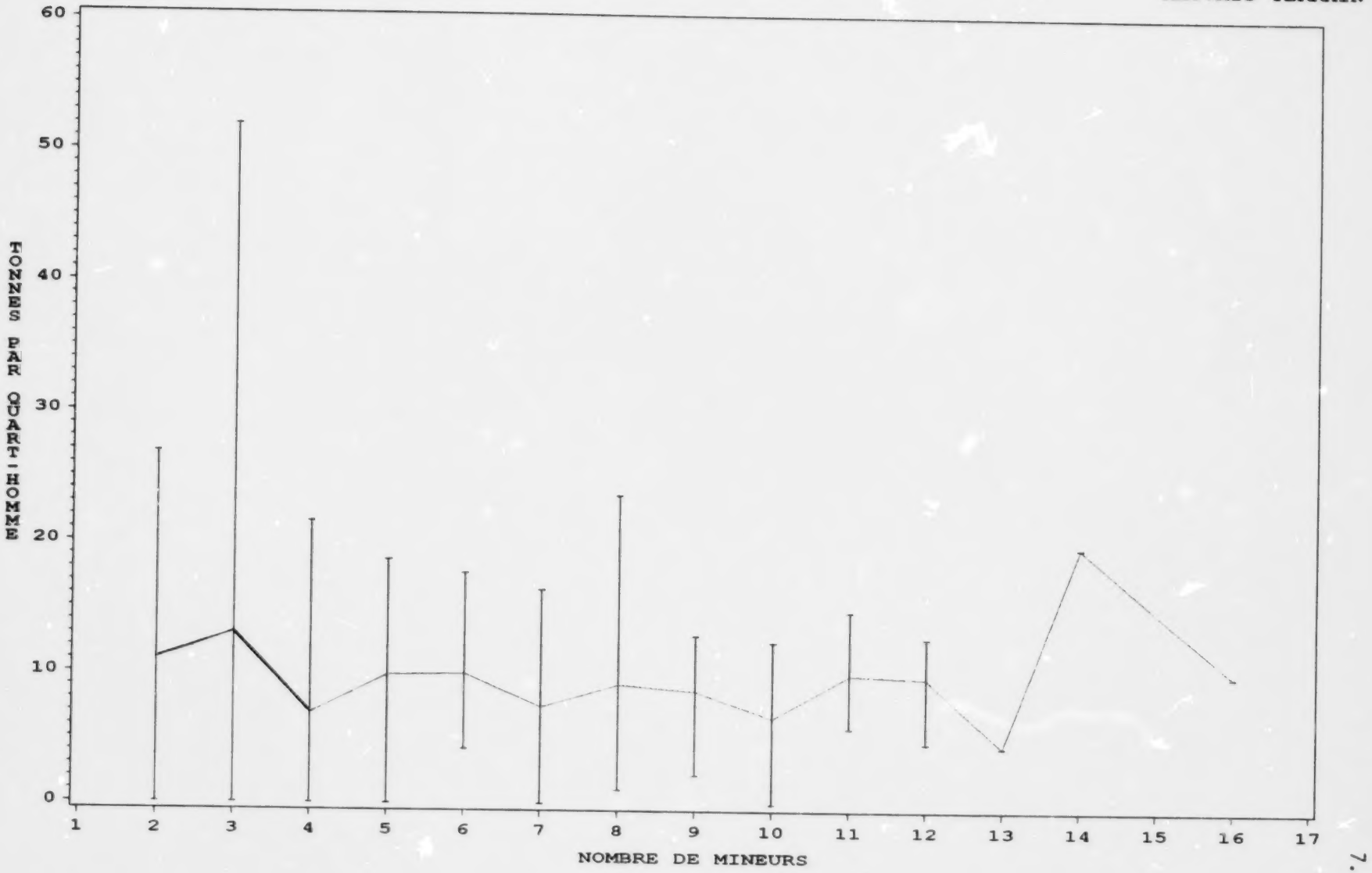
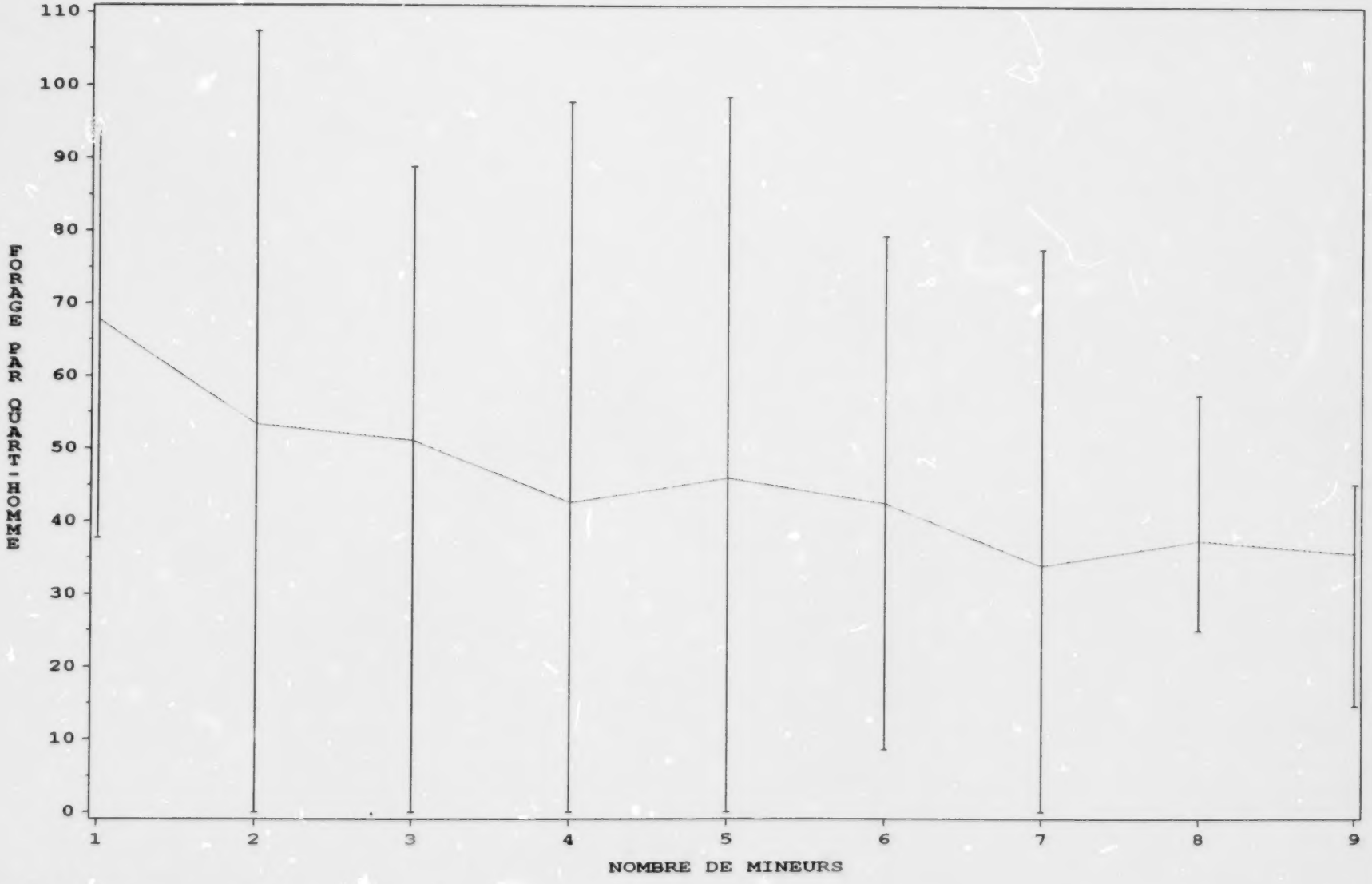


FIGURE A.6

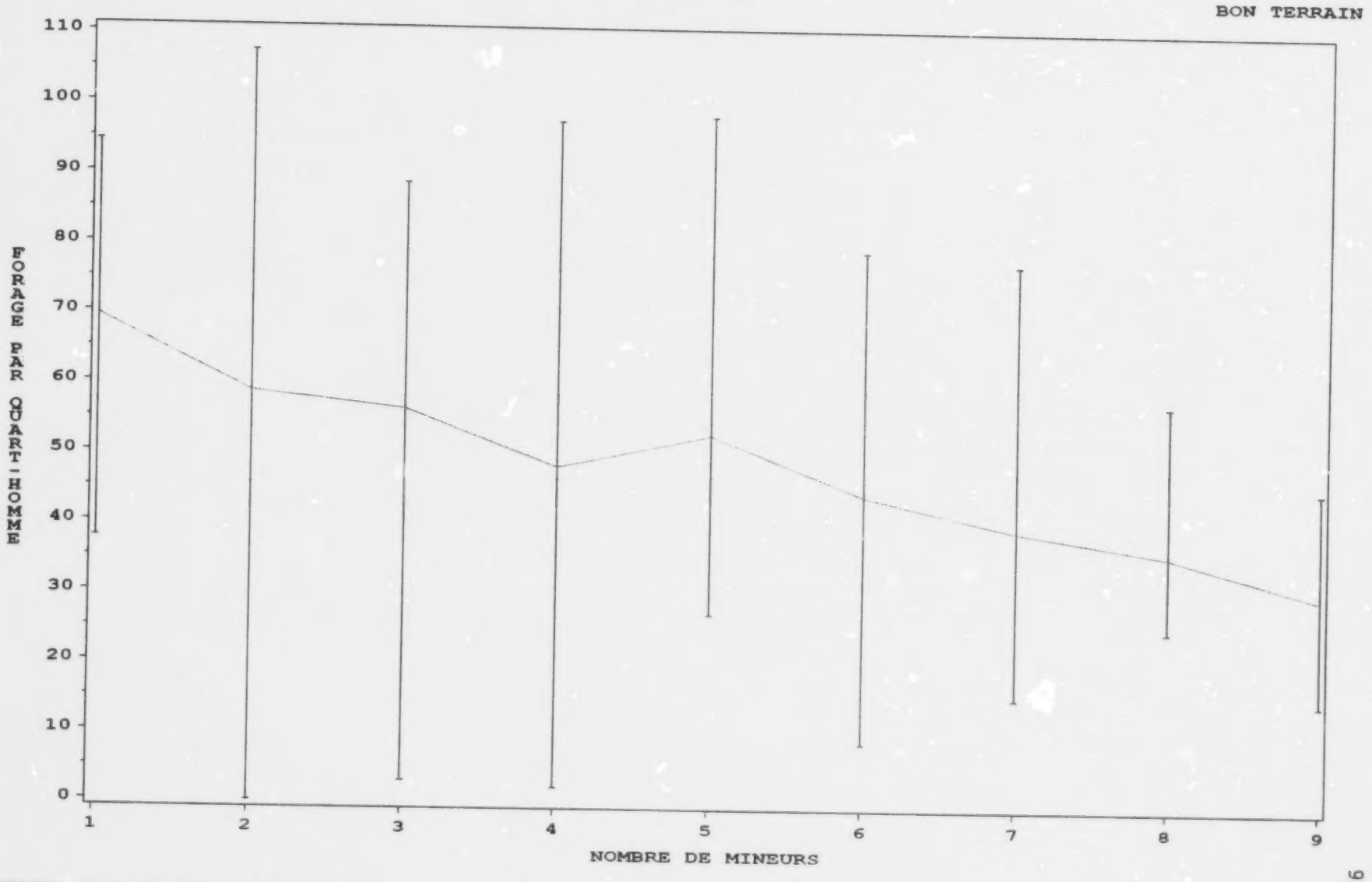
FORAGE PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES ET PILIERS
MINE A



NOTE: FORAGE EN PIEDS

FIGURE A.7

FORAGE PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES ET PILIERS
MINE A

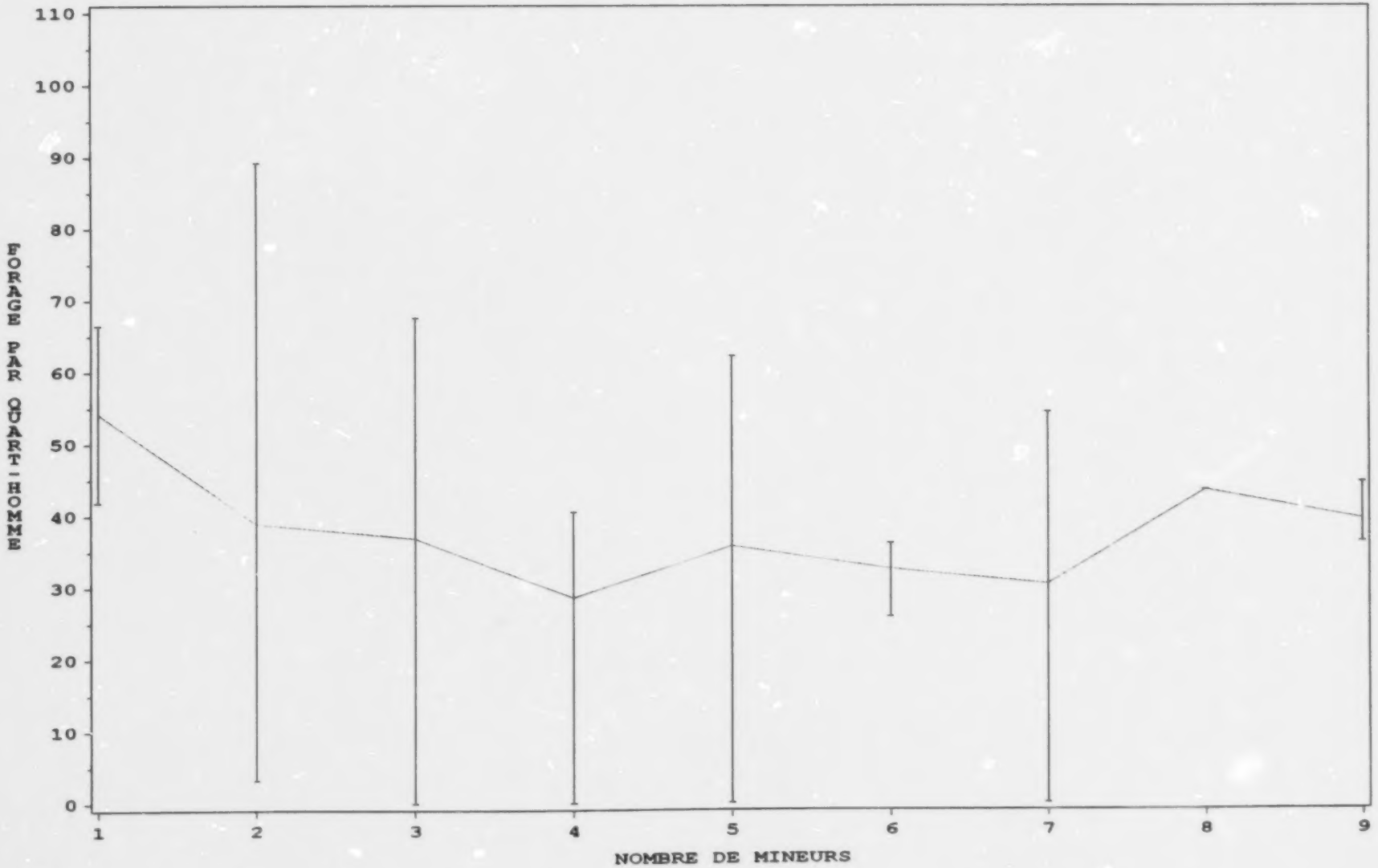


NOTE: FORAGE EN PIEDS

FIGURE A.8

FORAGE PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES ET PILIERS
MINE A

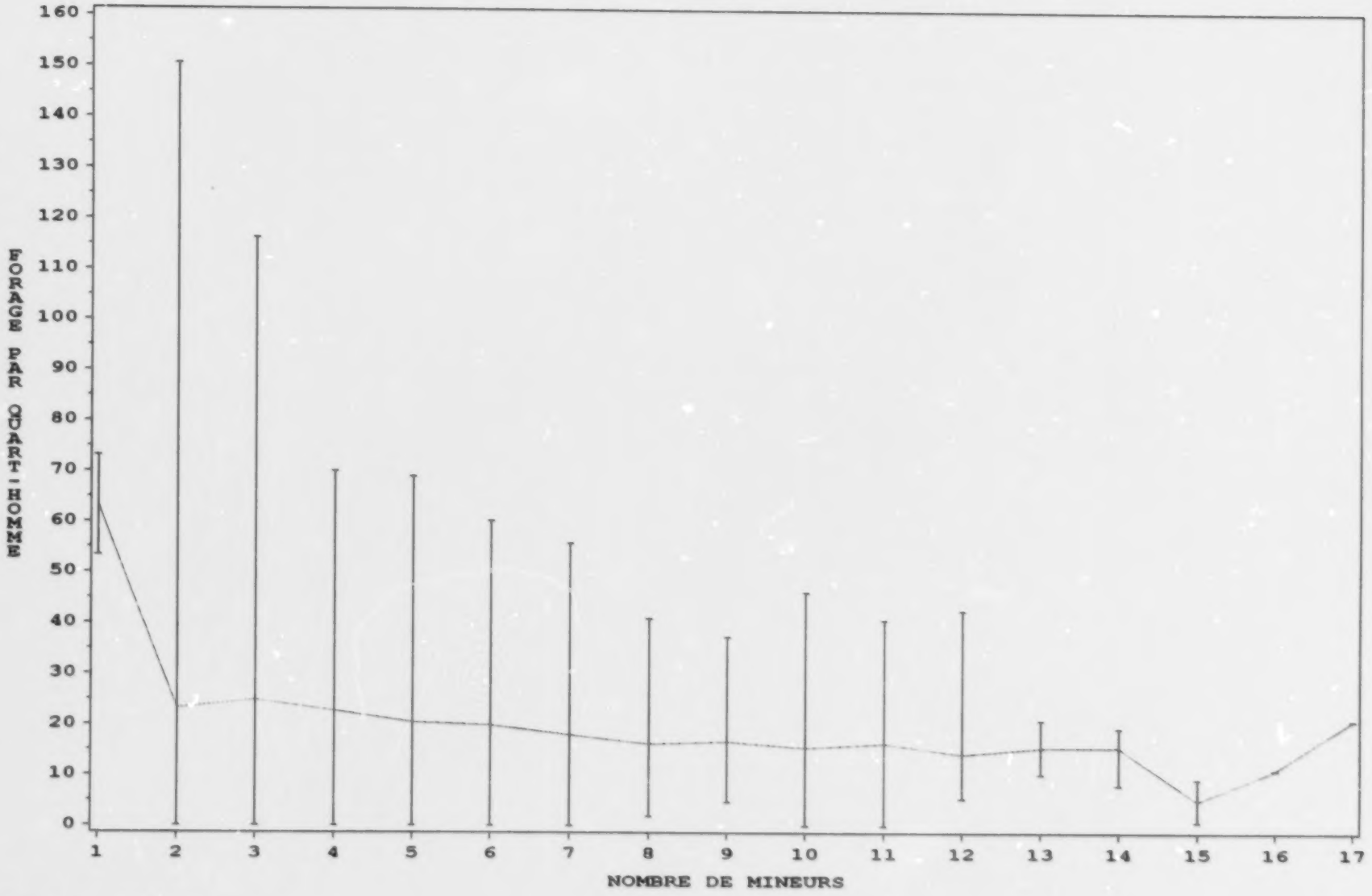
MAUVAIS TERRAIN



NOTE: FORAGE EN PIEDS

FIGURE A.9

FORAGE PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES REMBLAYEES
MINE A

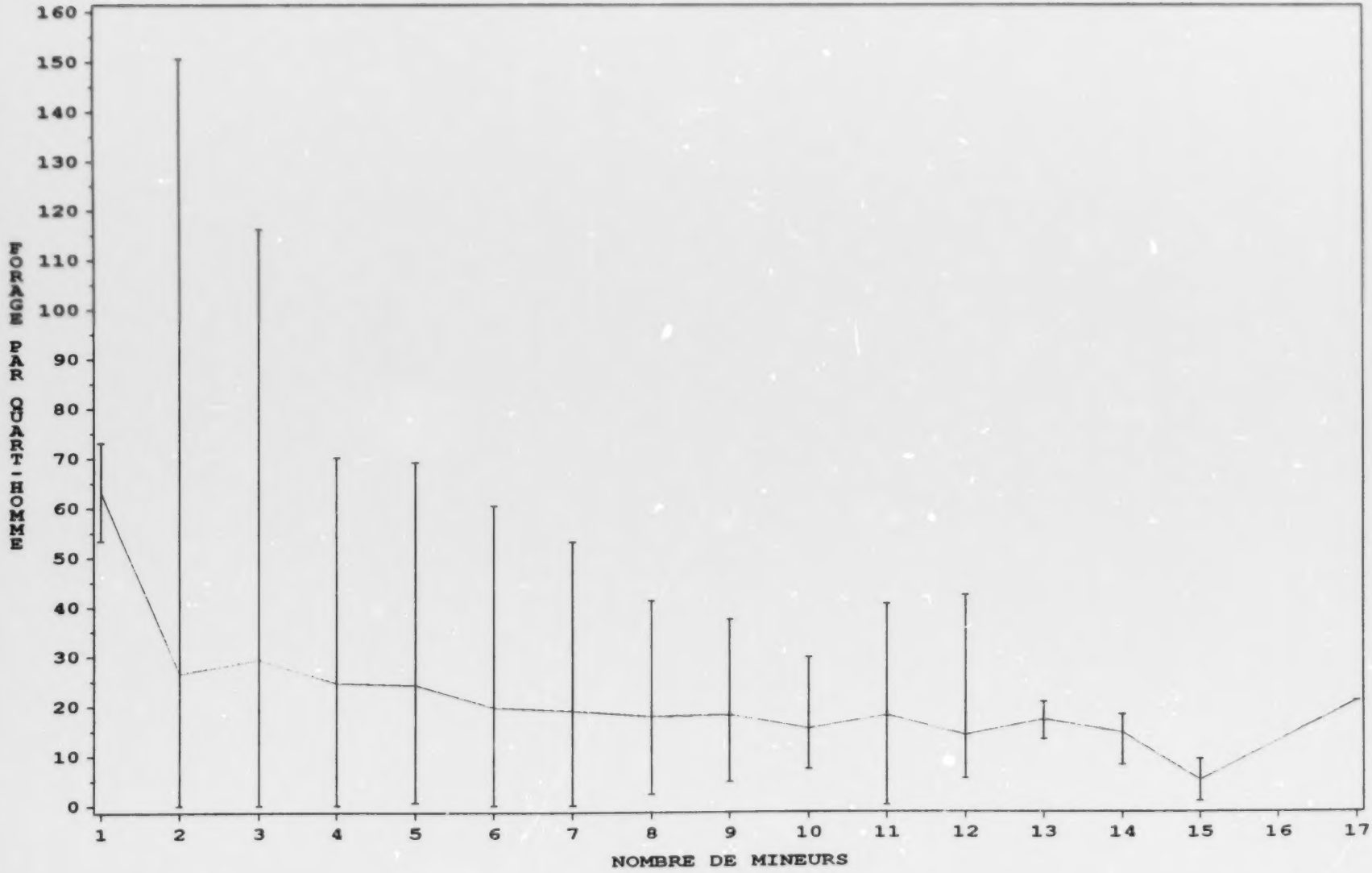


NOTE: FORAGE EN PIEDS

FIGURE A.10

FORAGE PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES REMBLAYEES
MINE A

BON TERRAIN

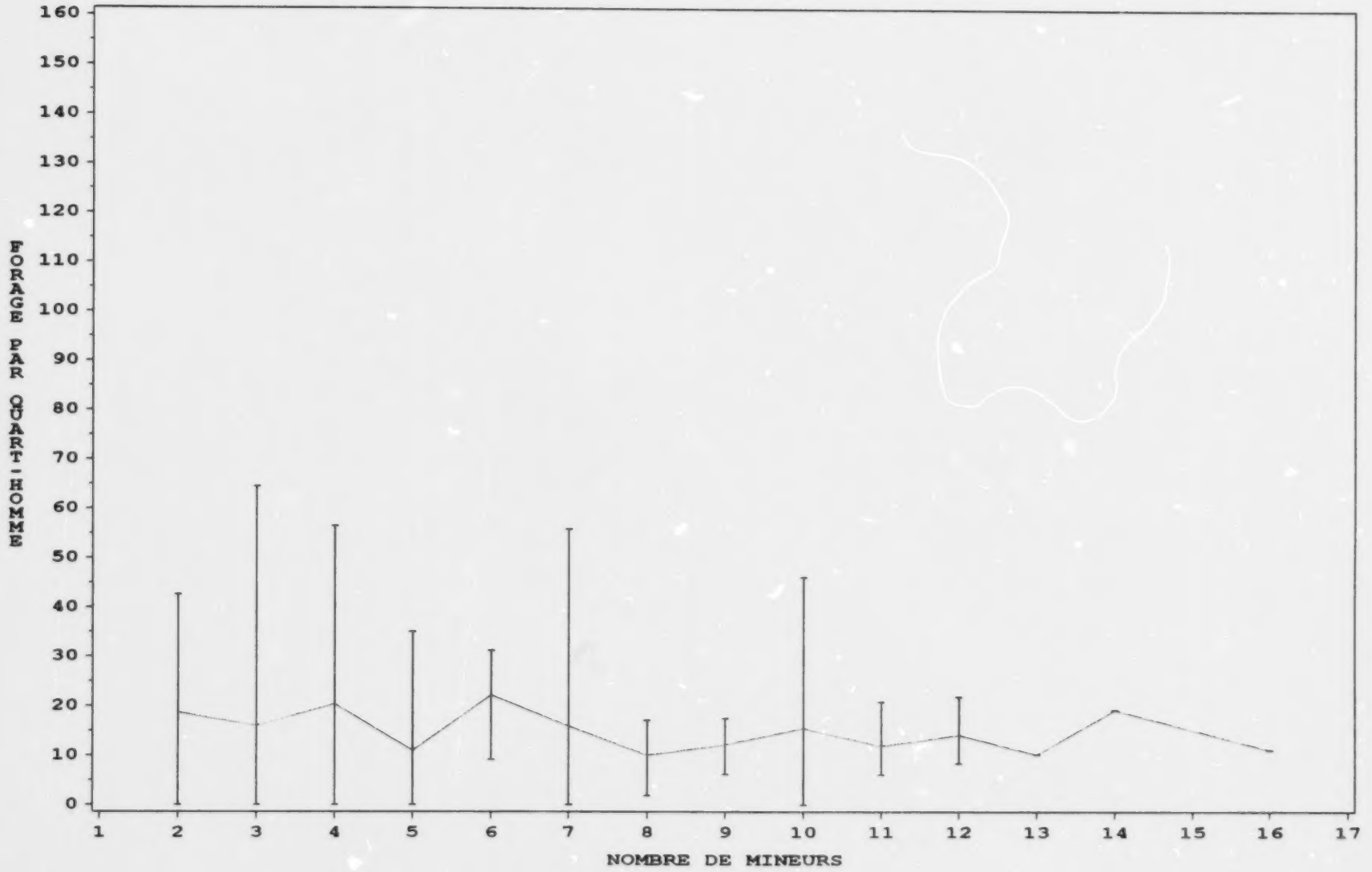


NOTE: FORAGE EN PIEDS

FIGURE A.11

FORAGE PAR QUART-HOMME VS NOMBRE DE MINEURS
ABATTAGE CHAMBRES REMBLAYEES
MINE A

MAUVAIS TERRAIN



NOTE: FORAGE EN PIEDS

FIGURE A.12

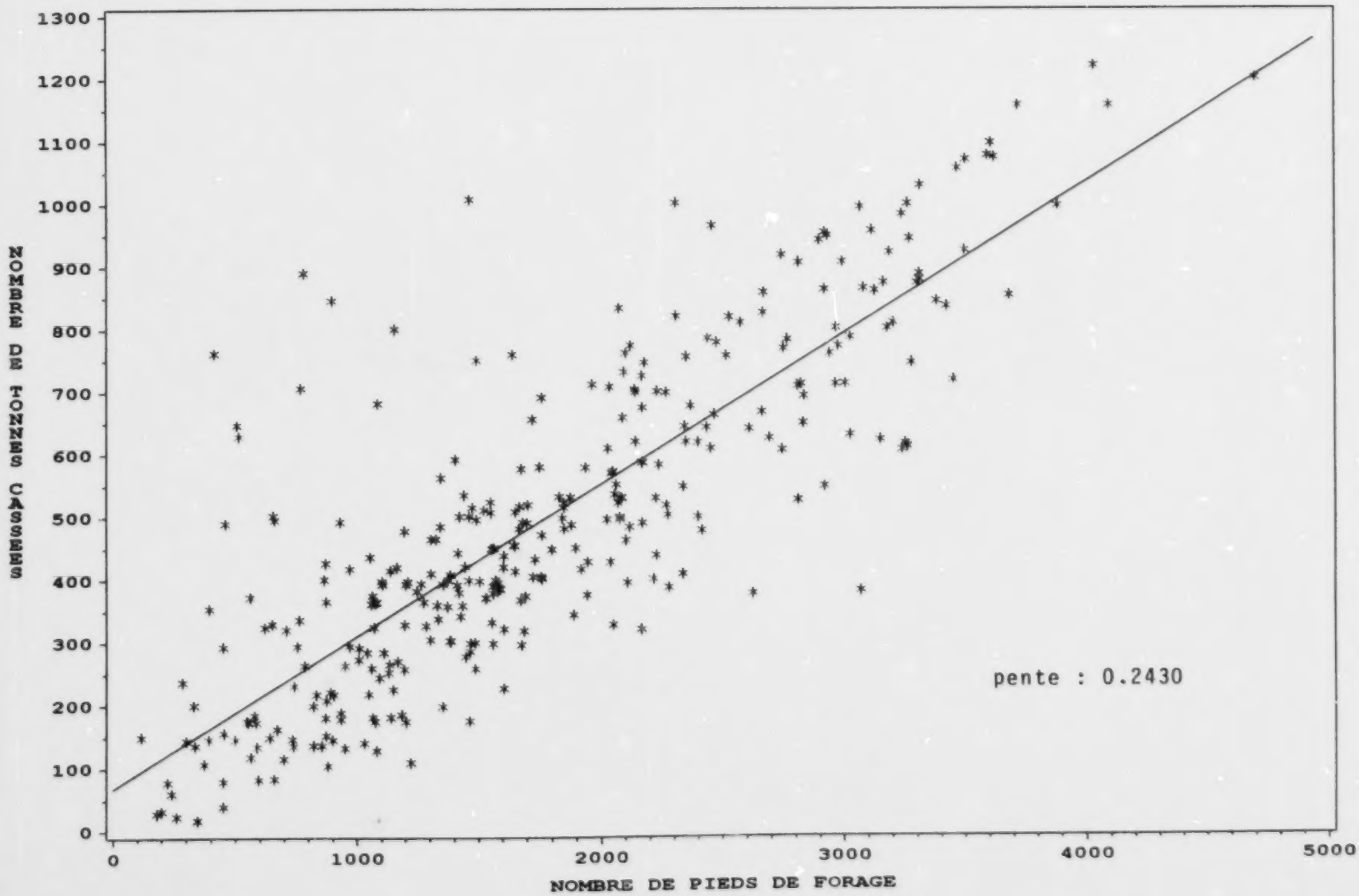

TONNES CASSEES VS PIEDS DE FORAGE
ABATTAGE CHAMBRES ET PILIERS
MINE A
NOMBRE DE TONNES CASSEES
NOMBRE DE PIEDS DE FORAGE
pente : 0.2430
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1000
2000
3000
4000
5000

FIGURE A.13

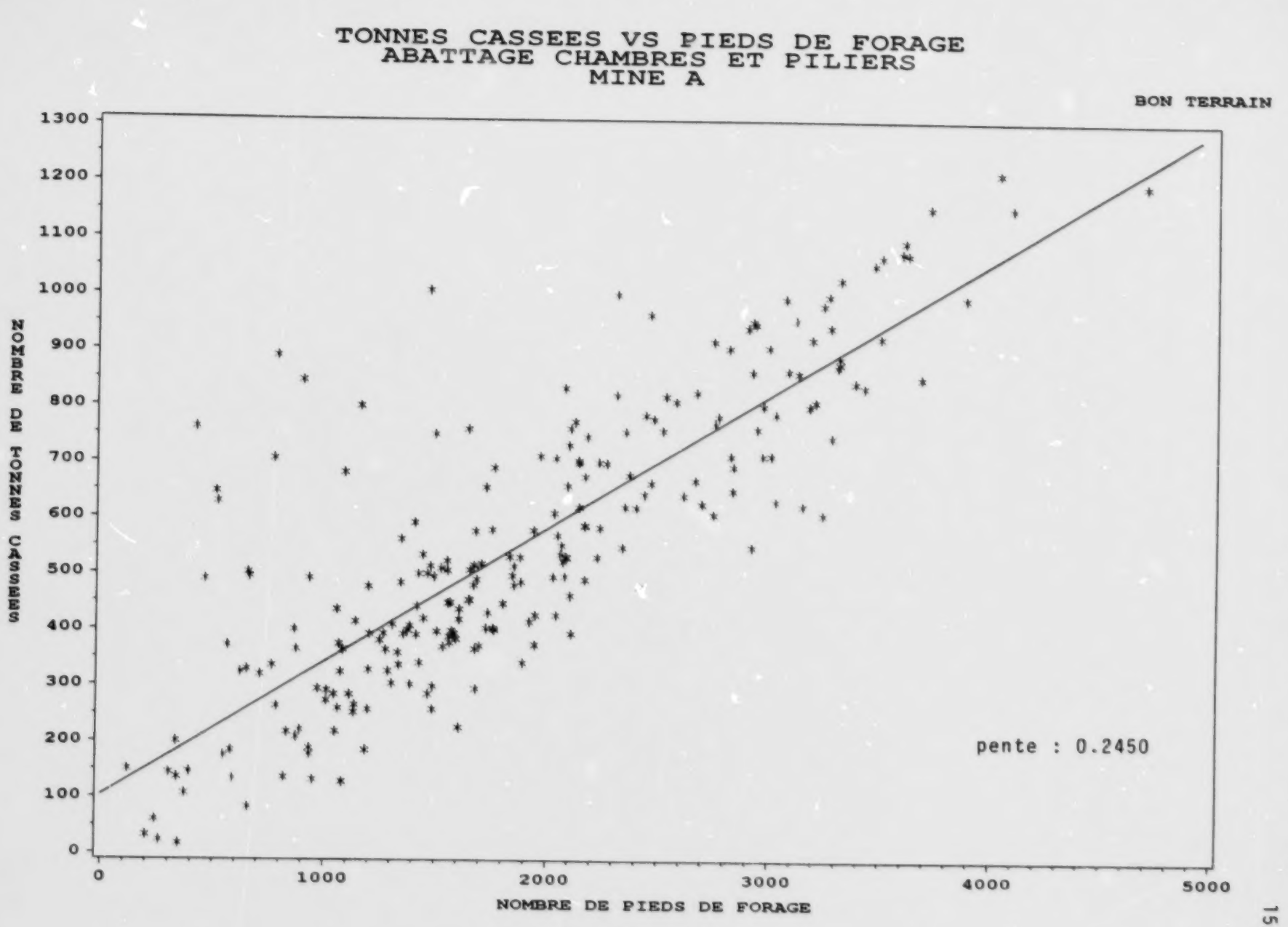

TONNES CASSEES VS PIEDS DE FORAGE
ABATTAGE CHAMBRES ET PILIERS
MINE A
BON TERRAIN
NOMBRE DE TONNES CASSEES
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
0
1000
2000
3000
4000
5000
NOMBRE DE PIEDS DE FORAGE
pente : 0.2450

FIGURE A.14

TONNES CASSEES VS PIEDS DE FORAGE
ABATTAGE CHAMBRES ET PILIERS
MINE A

MAUVAIS TERRAIN

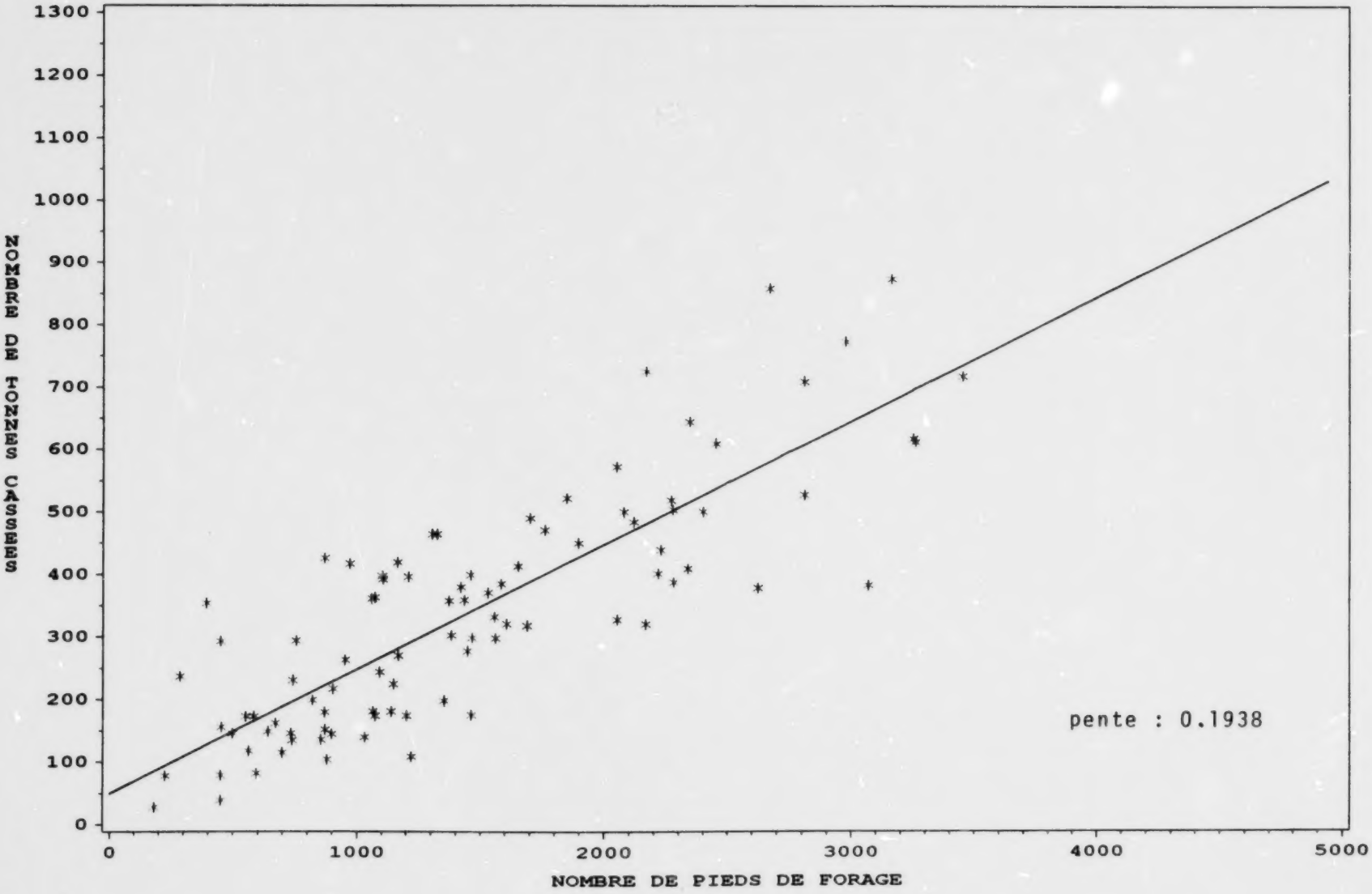


FIGURE A.15

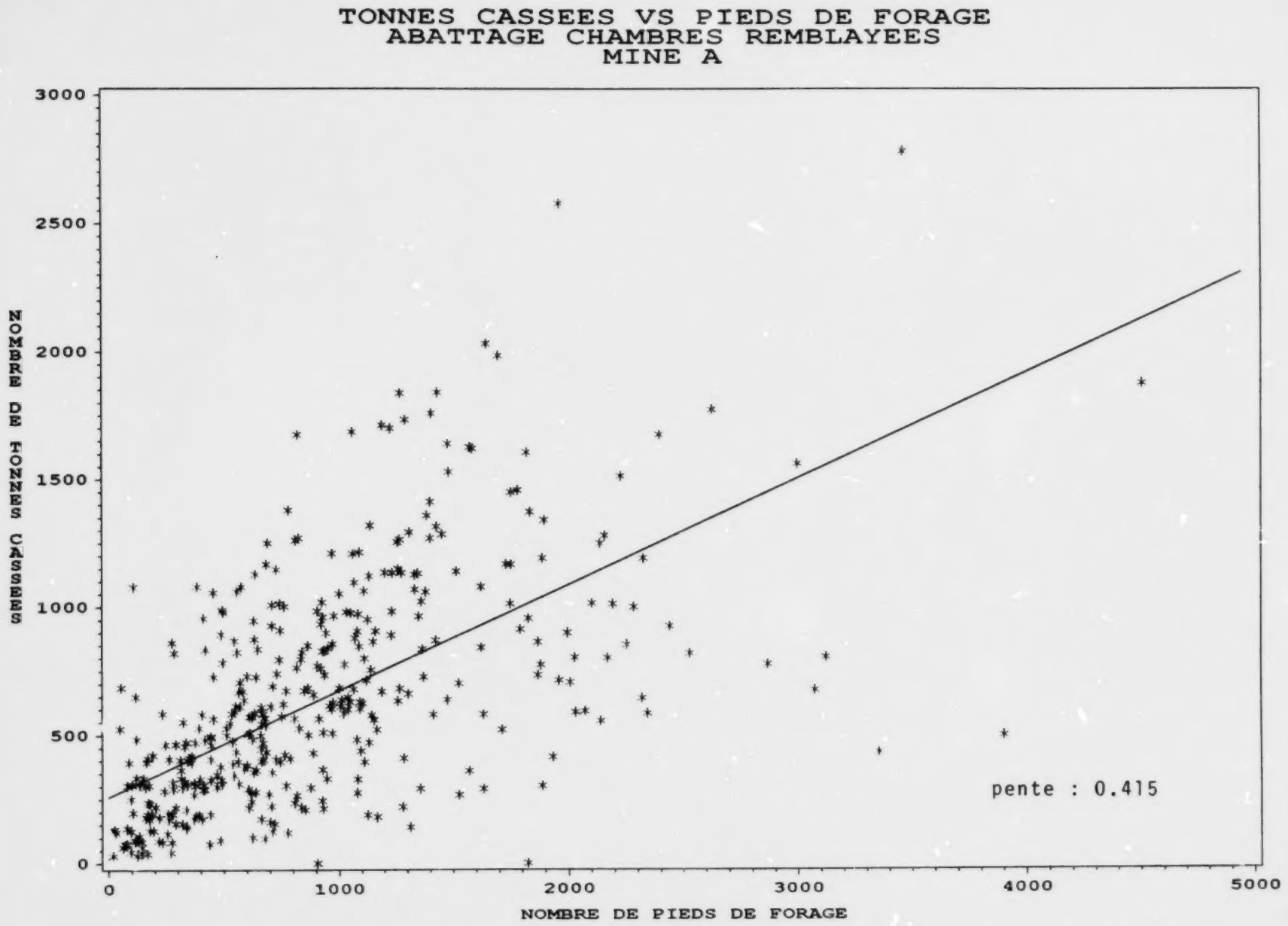

TONNES CASSEES VS PIEDS DE FORAGE
ABATTAGE CHAMBRES REMBLAYEES
MINE A
NOMBRE DE TONNES CASSEES
3000
2500
2000
1500
1000
500
0
0
1000
2000
3000
4000
5000
NOMBRE DE PIEDS DE FORAGE
pente : 0.415

FIGURE A.16

TONNES CASSEES VS PIEDS DE FORAGE
ABATTAGE CHAMBRES REMBLAYEES
MINE A

BON TERRAIN

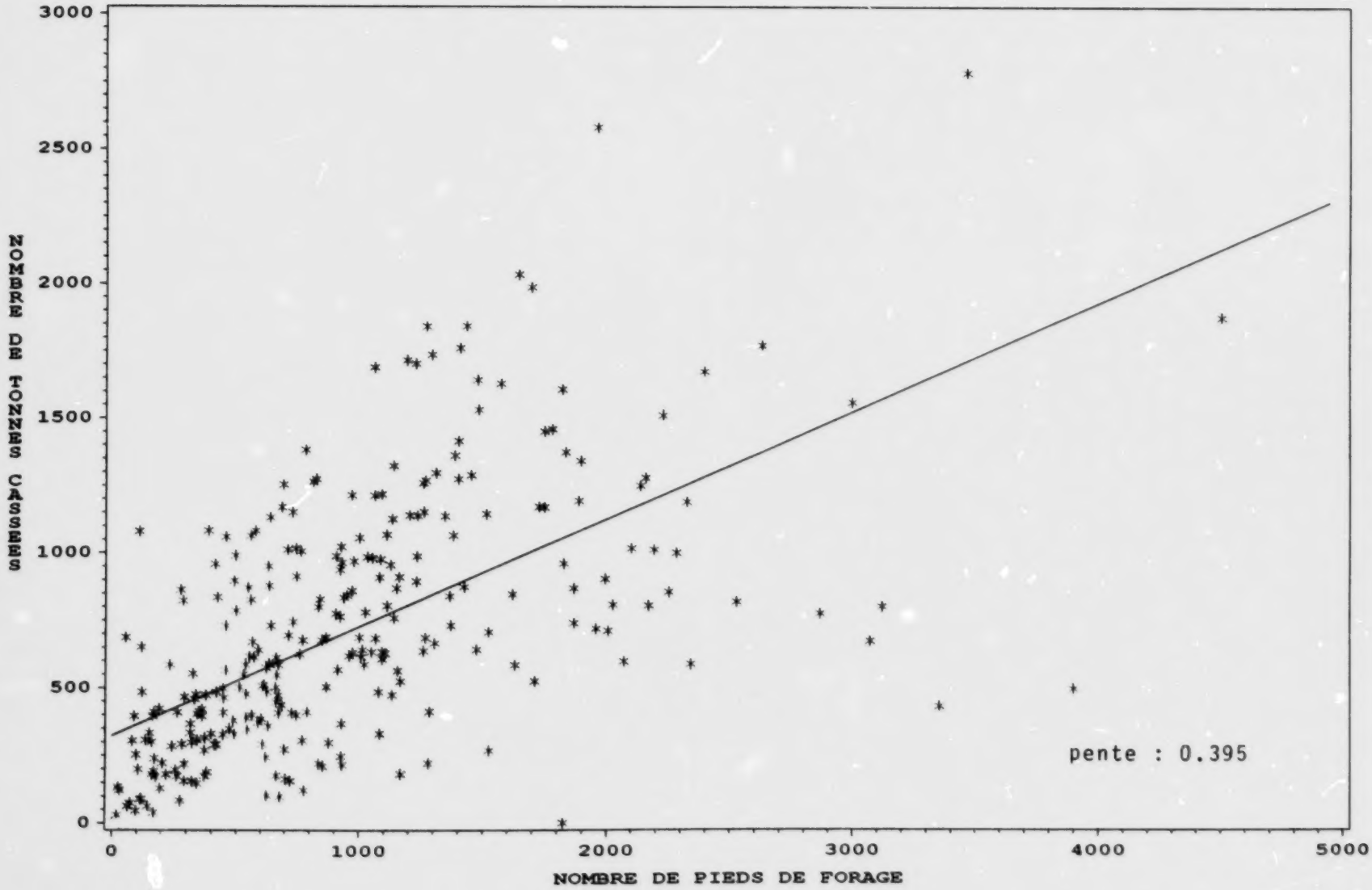


FIGURE A.17

TONNES CASSEES VS PIEDS DE FORAGE
ABATTAGE CHAMBRES REMBLAYEES
MINE A

MAUVAIS TERRAIN

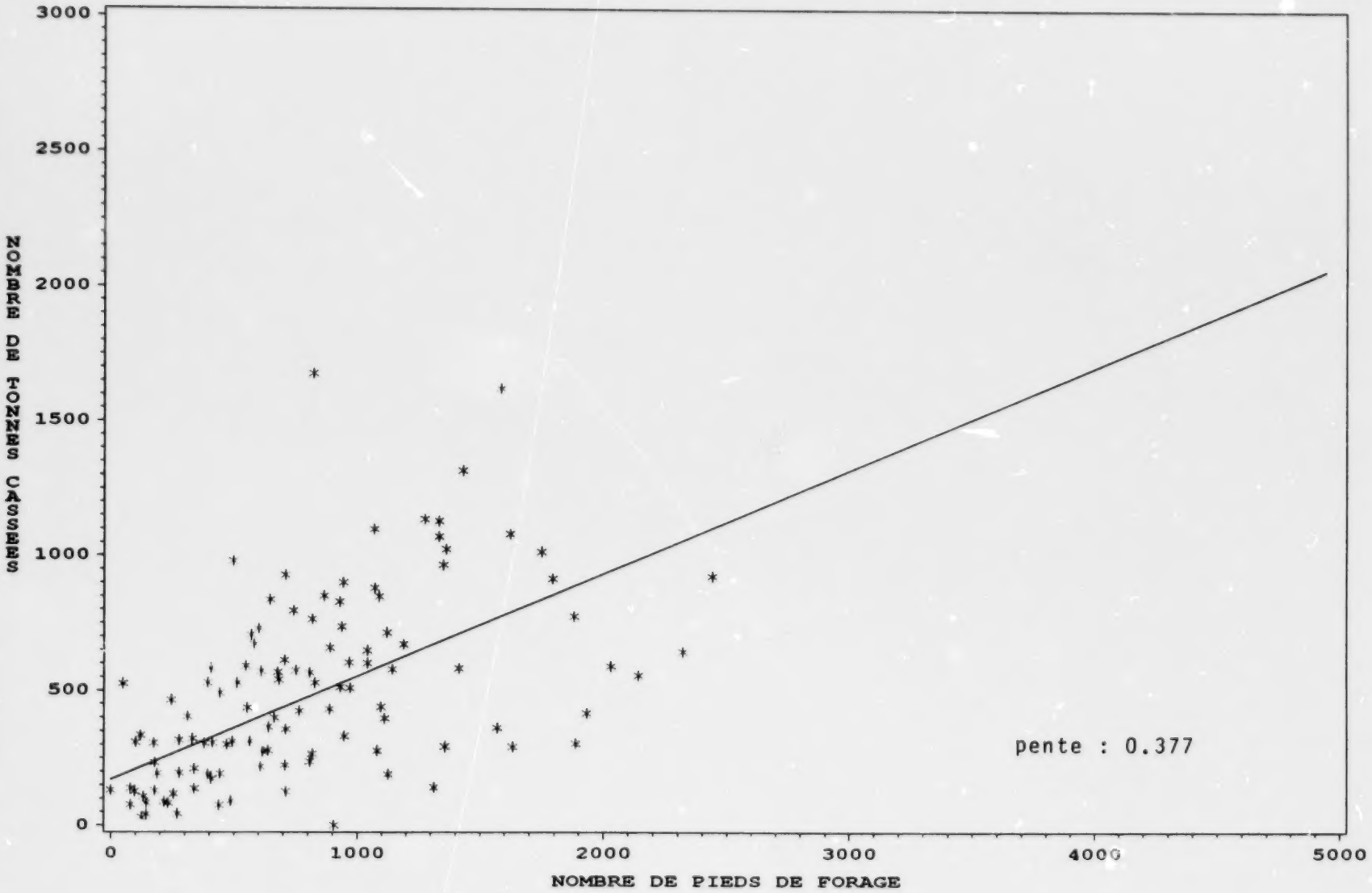


FIGURE A.18

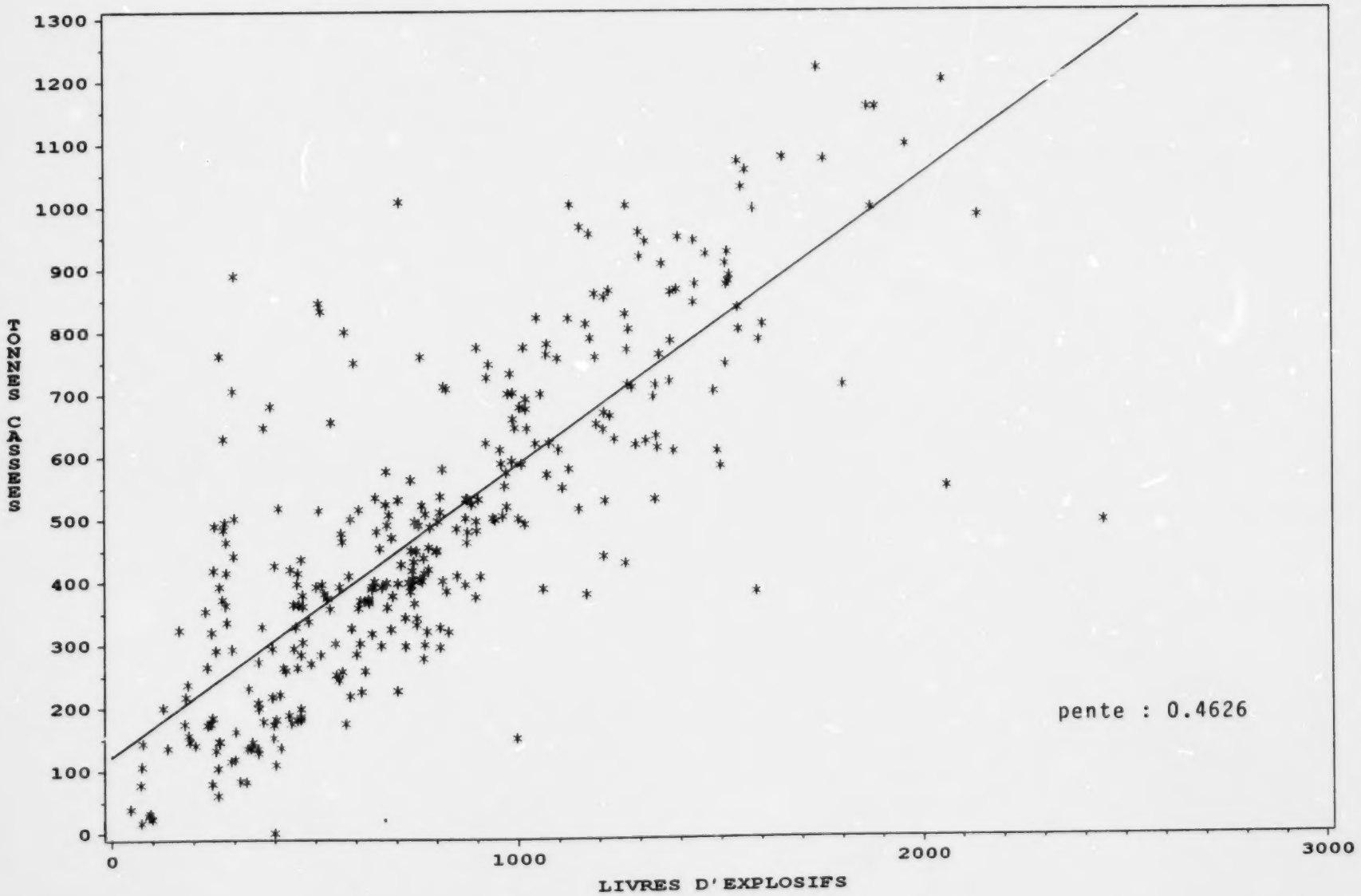

TONNES CASSEES VS LIVRES D'EXPLOSIFS
ABATTAGE CHAMBRES ET PILIERS
MINE A
TONNES CASSEES
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
0
1000
2000
3000
LIVRES D'EXPLOSIFS
pente : 0.4626

FIGURE A.19

TONNES CASSEES VS LIVRES D'EXPLOSIFS
ABATTAGE CHAMBRES ET PILIERS
MINE A

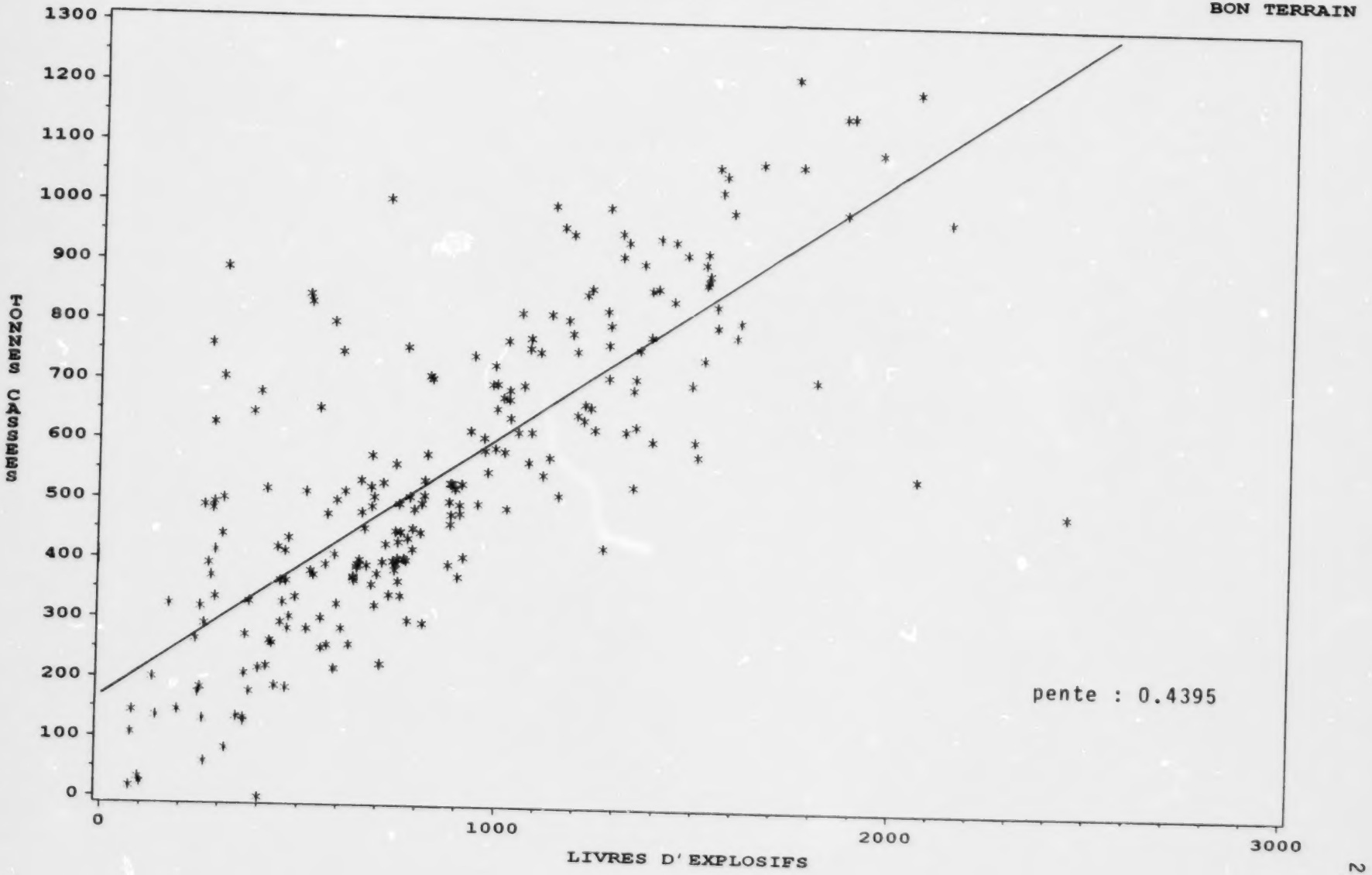


FIGURE A.20

TONNES CASSEES VS LIVRES D'EXPLOSIFS
ABATTAGE CHAMBRES ET PILIERS
MINE A

MAUVAIS TERRAIN

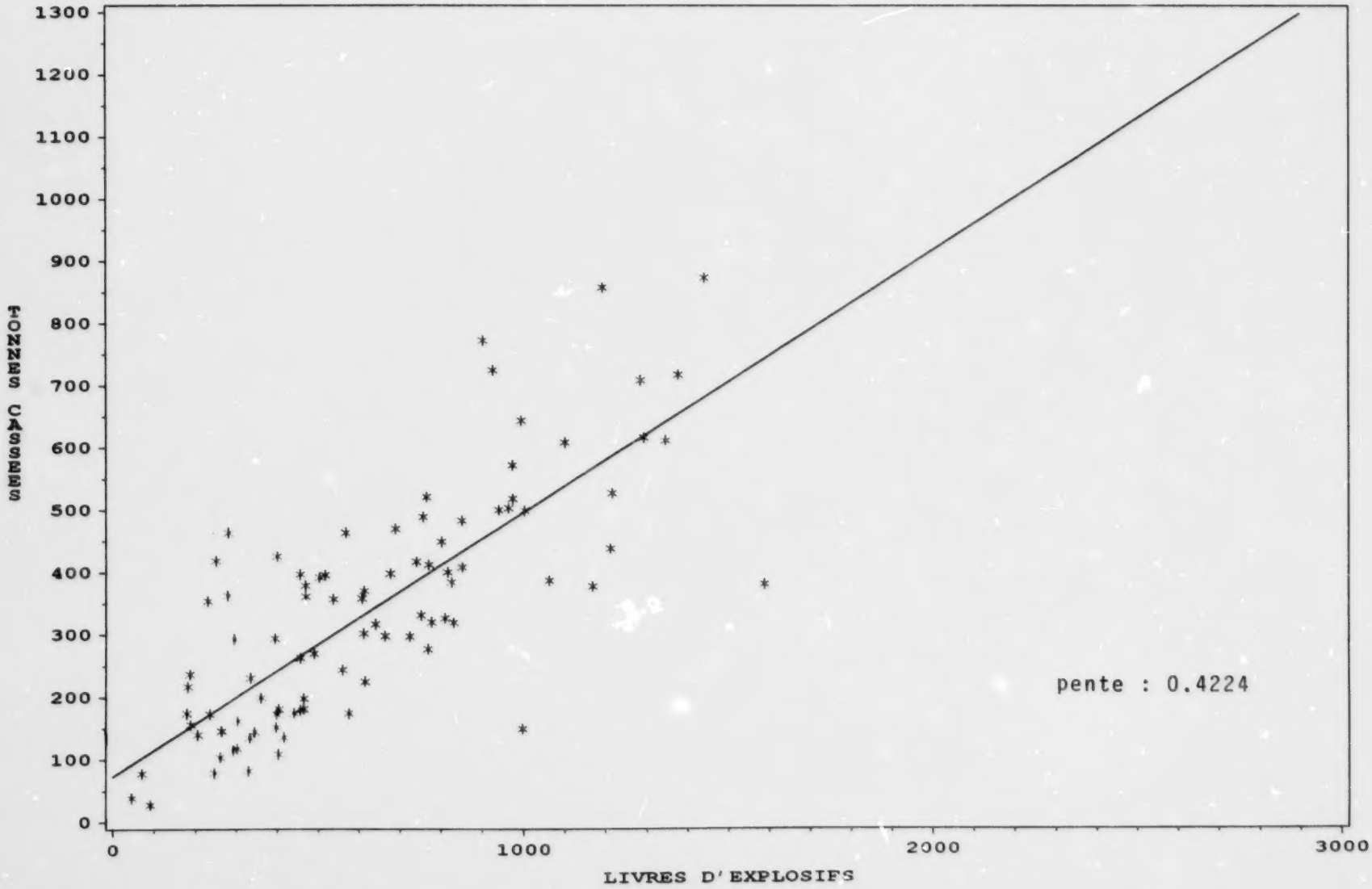


FIGURE A.21

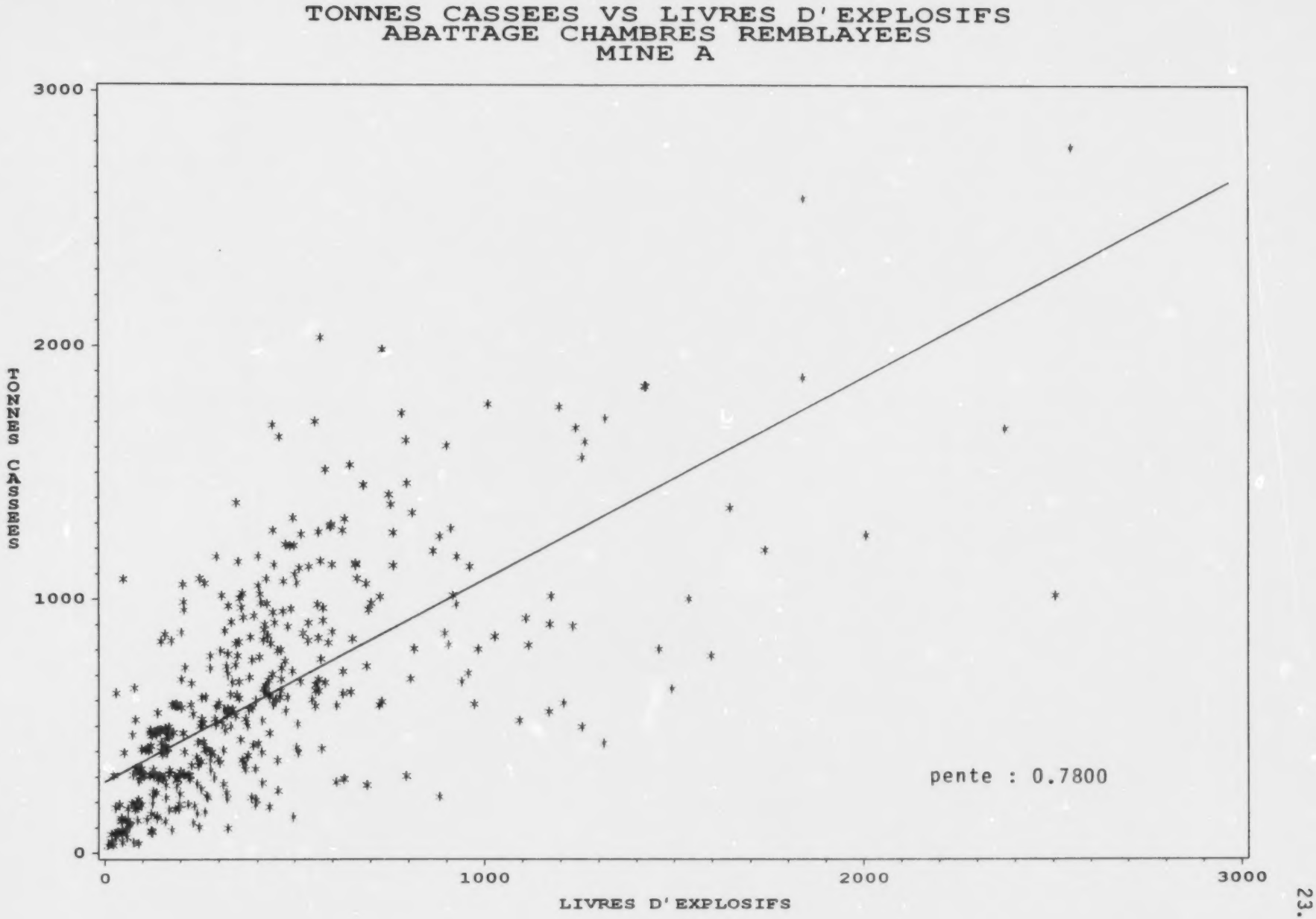

TONNES CASSEES VS LIVRES D'EXPLOSIFS
ABATTAGE CHAMBRES REMBLAYEES
MINE A
3000
2000
1000
0
TONNES CASSEES
0
1000
2000
3000
LIVRES D'EXPLOSIFS
pente : 0.7800

FIGURE A.22

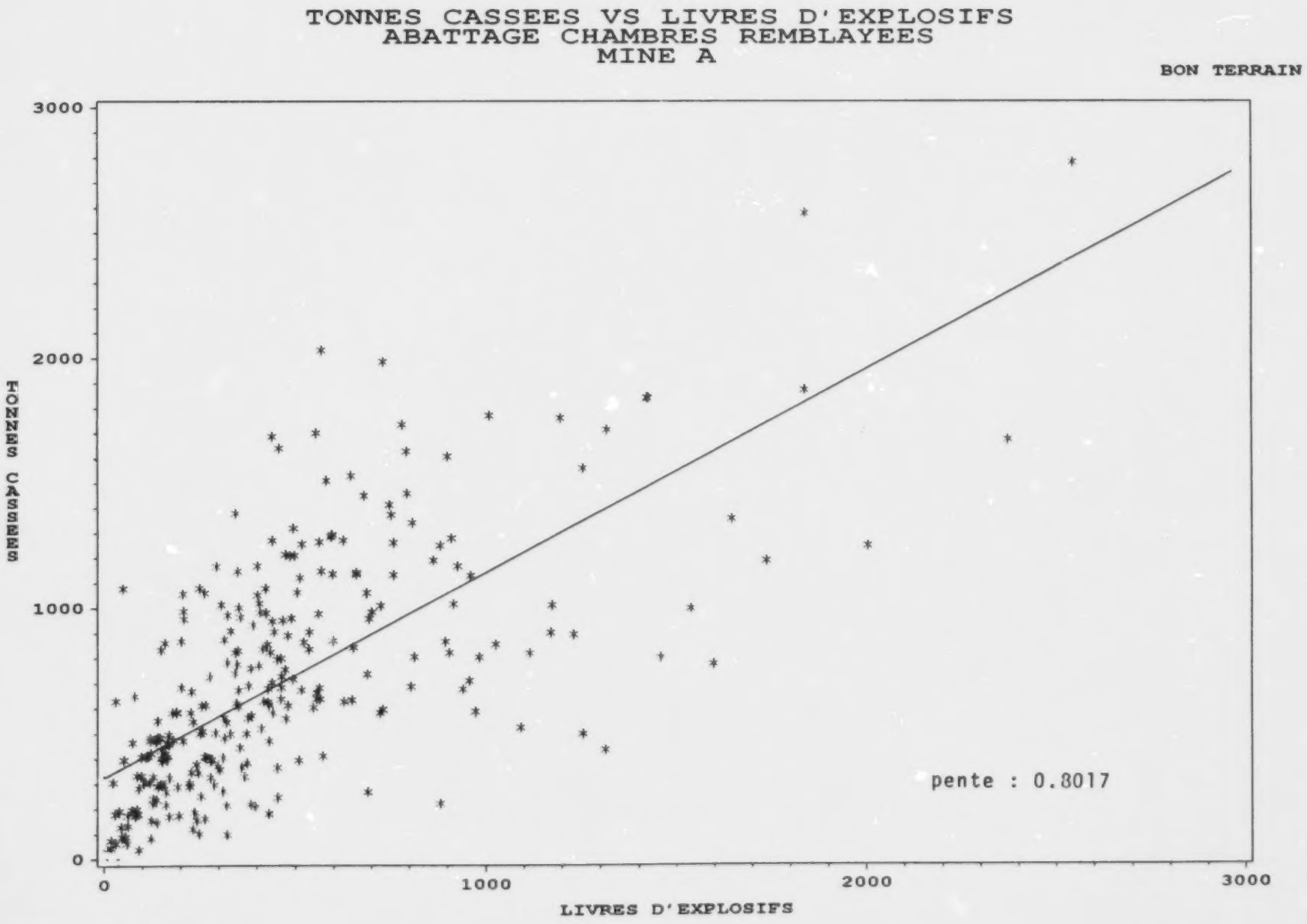

TONNES CASSEES VS LIVRES D'EXPLOSIFS
ABATTAGE CHAMBRES REMBLAYEES
MINE A
BON TERRAIN
3000
2000
1000
0
TONNES CASSEES
0
1000
2000
3000
LIVRES D'EXPLOSIFS
pente : 0.8017

FIGURE A.23

TONNES CASSEES VS LIVRES D'EXPLOSIFS
ABATTAGE CHAMBRES REMBLAYEES
MINE A

MAUVAIS TERRAIN

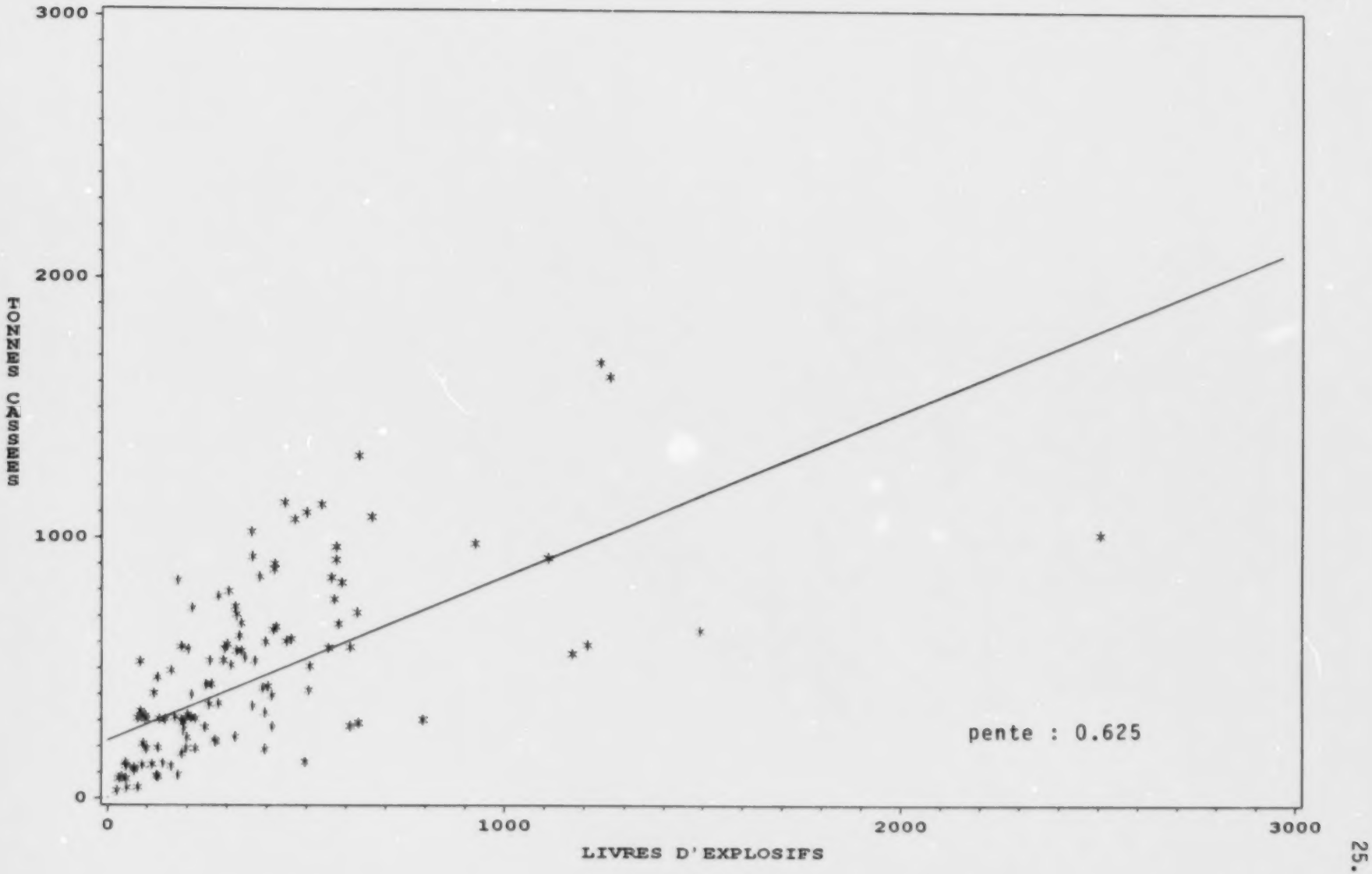


FIGURE A.24

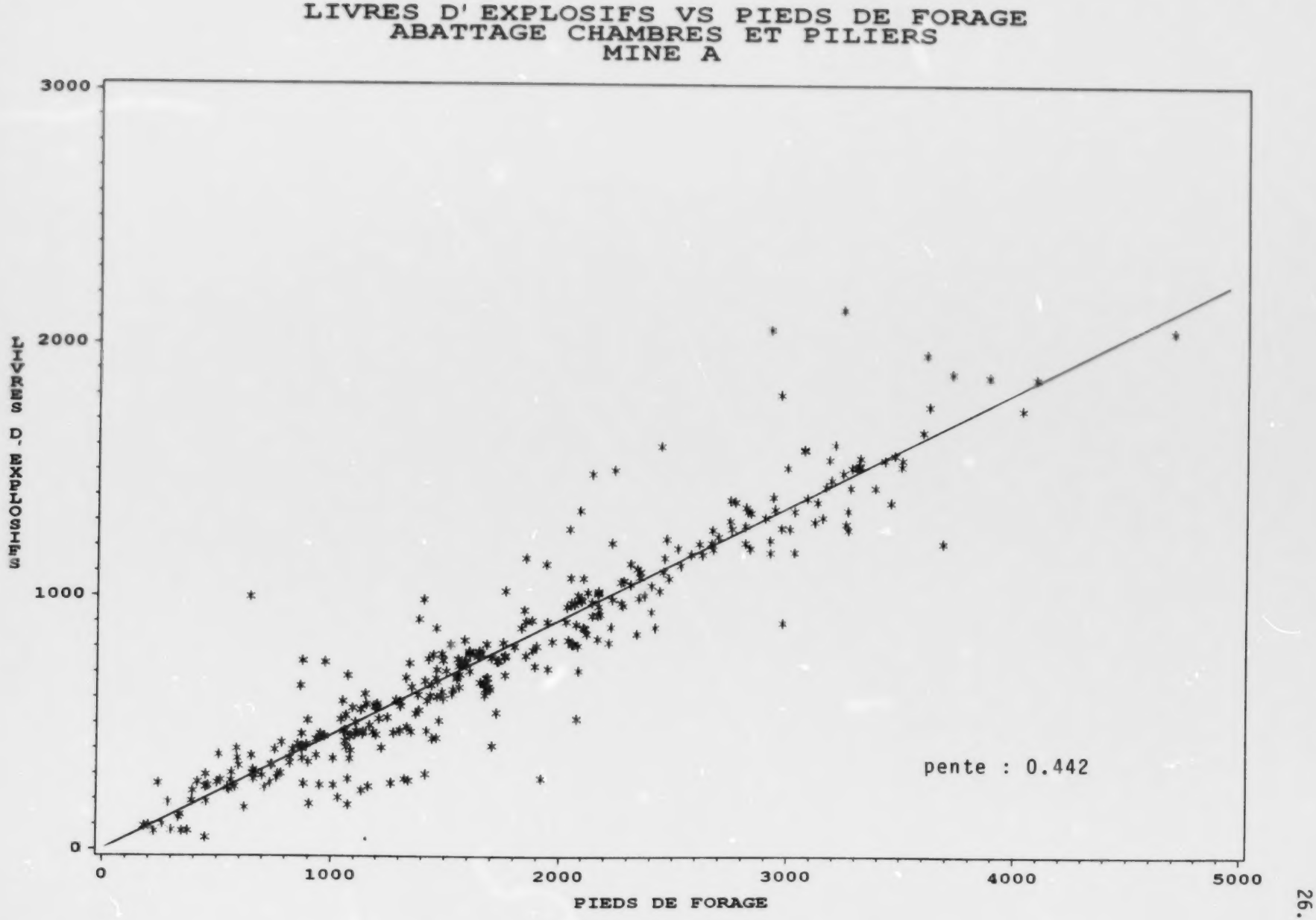

LIVRES D' EXPLOSIFS VS PIEDS DE FORAGE
ABATTAGE CHAMBRES ET PILIERS
MINE A
LIVRES D' EXPLOSIFS
3000
2000
1000
0
0
1000
2000
3000
4000
5000
PIEDS DE FORAGE
pente : 0.442

FIGURE A.25

LIVRES D'EXPLOSIFS VS PIEDS DE FORAGE
ABATTAGE CHAMBRES ET PILIERS
MINE A

BON TERRAIN

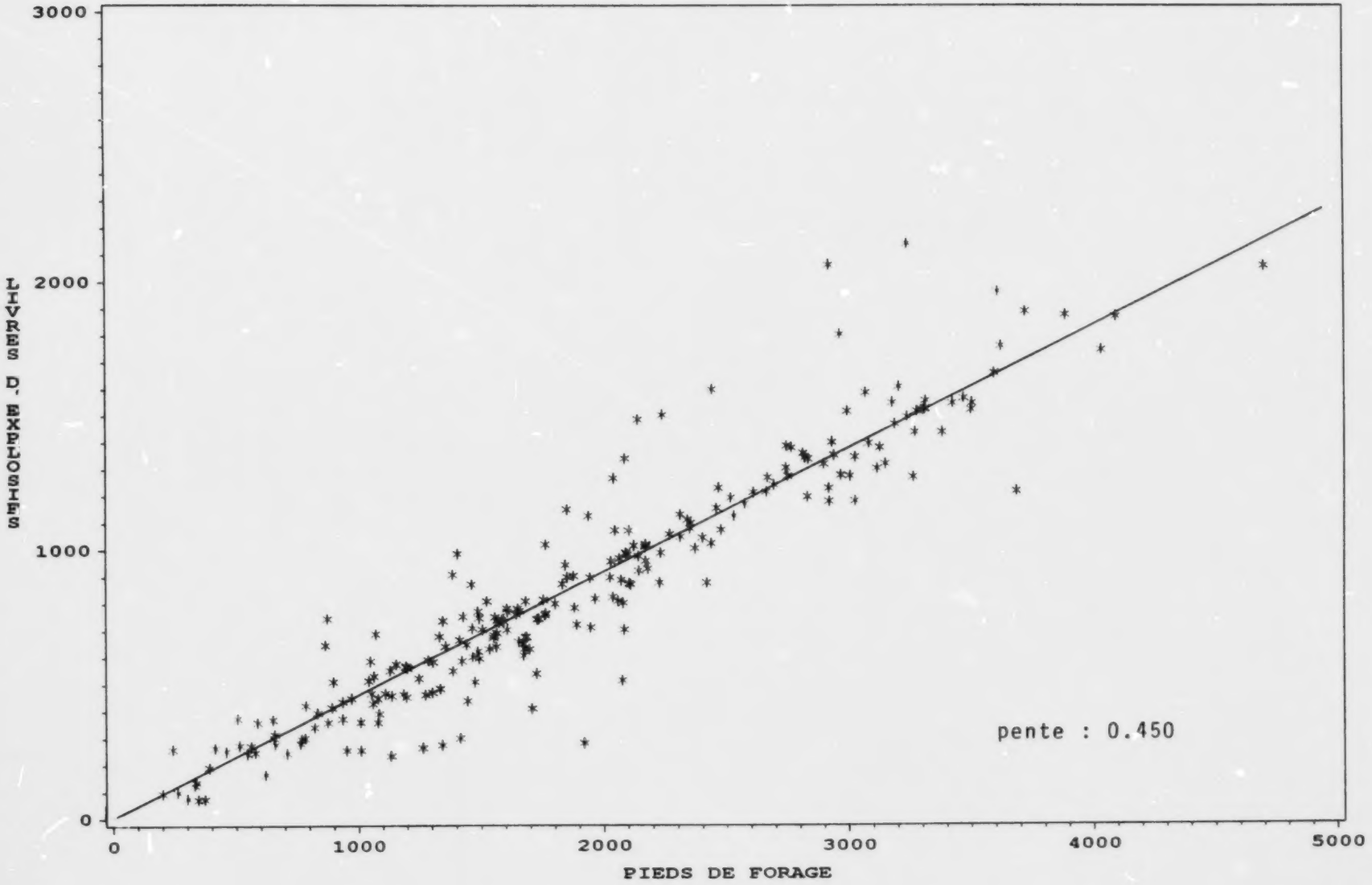


FIGURE A.26

LIVRES D'EXPLOSIFS VS PIEDS DE FORAGE
ABATTAGE CHAMBRES ET PILIERS
MINE A

MAUVAIS TERRAIN

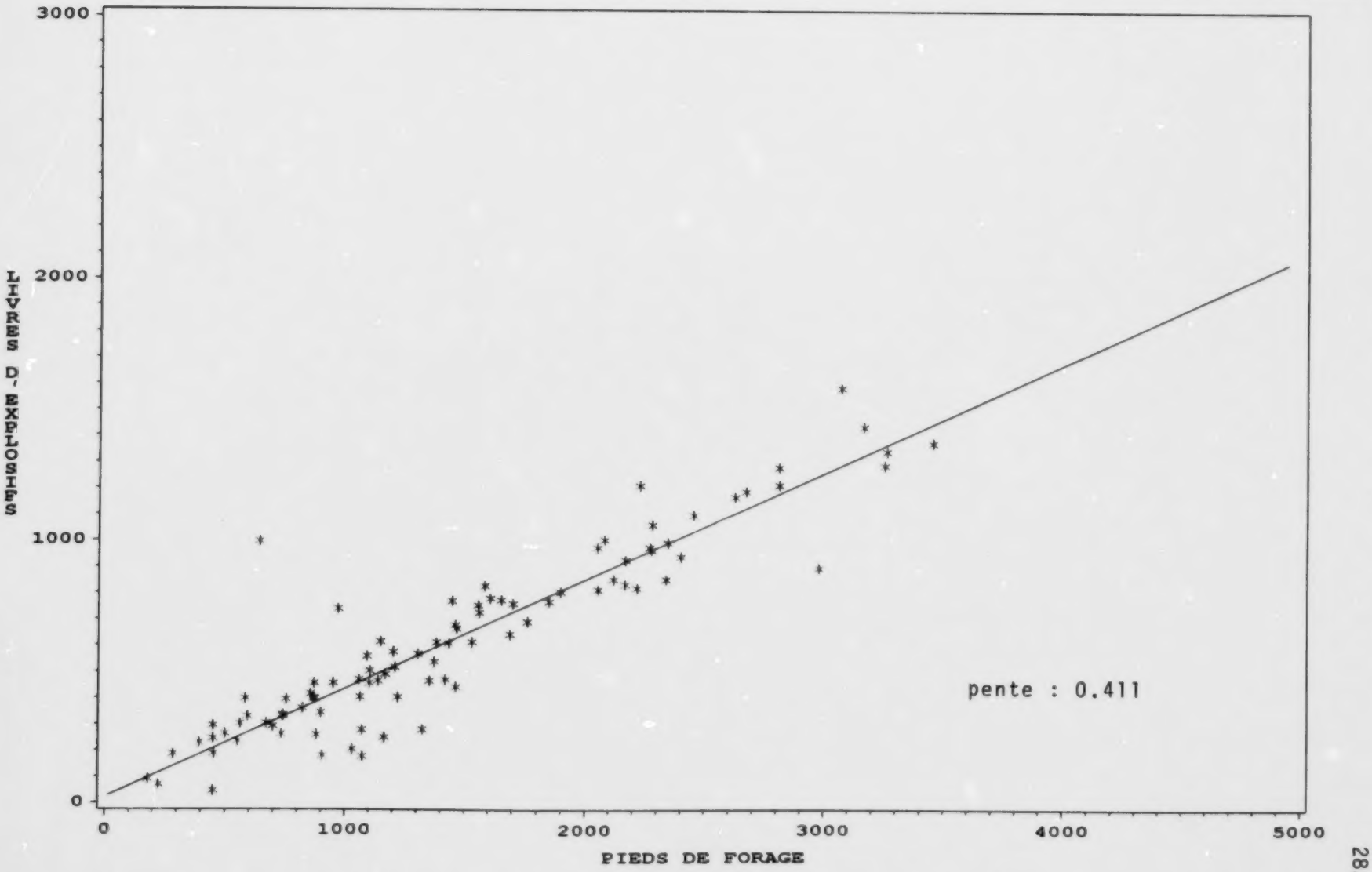


FIGURE A.27

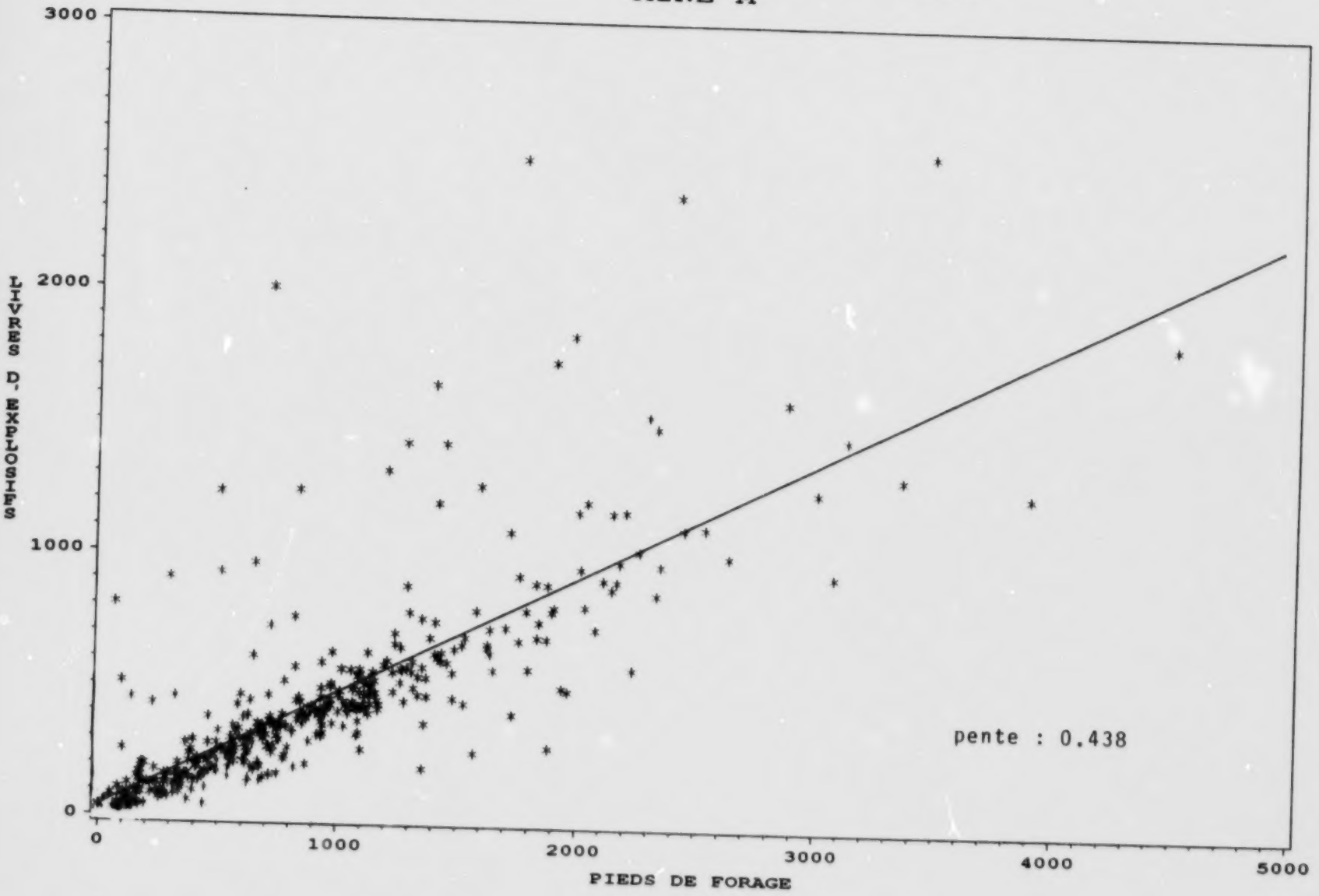

LIVRES D'EXPLOSIFS VS PIEDS DE FORAGE
ABATTAGE CHAMBRES REMBLAYEES
MINE A
3000
2000
1000
0
LIVRES D. EXPLOSIFS
0
1000
2000
3000
4000
5000
PIEDS DE FORAGE
pente : 0.438

FIGURE A.28

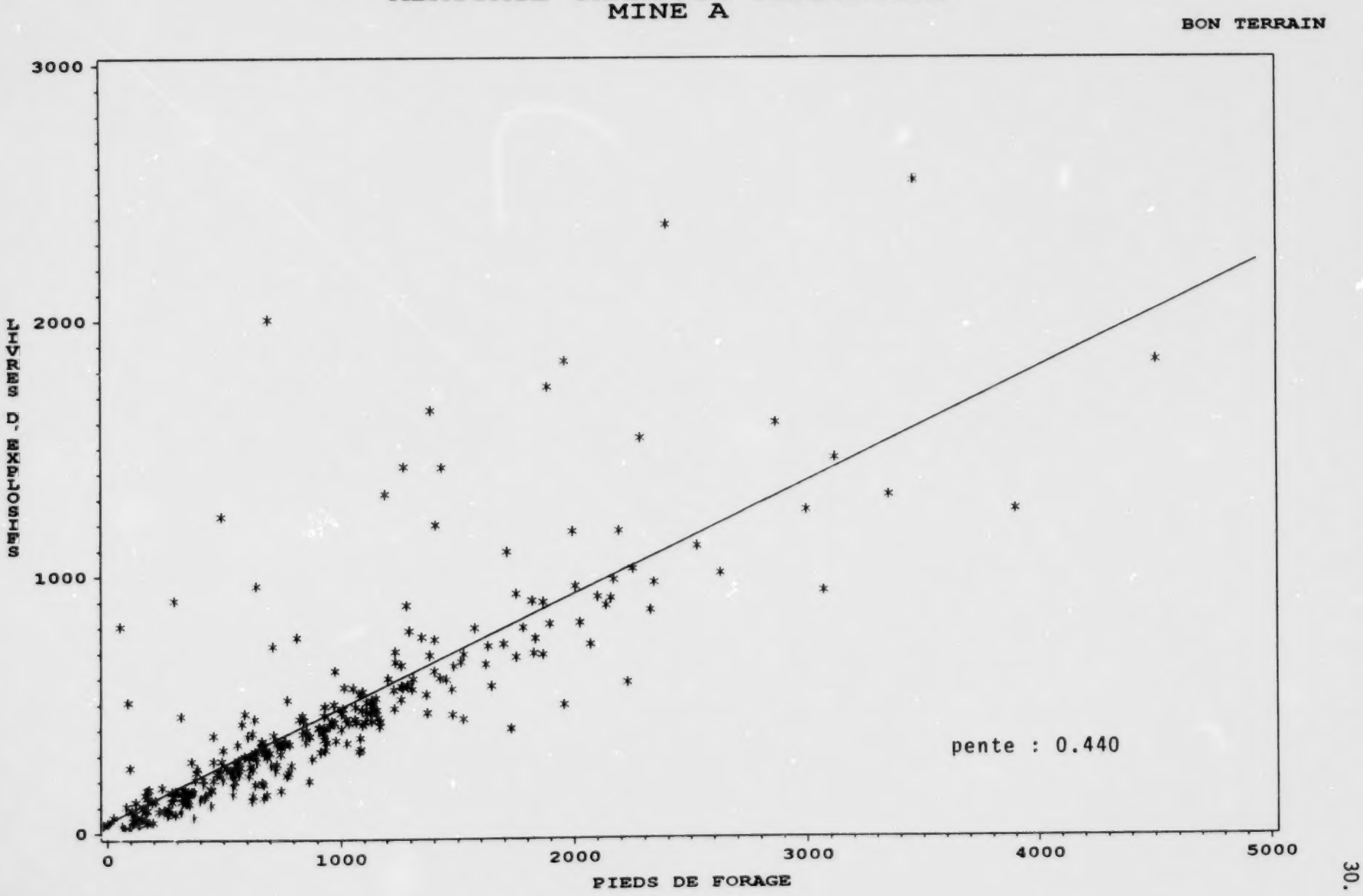

LIVRES D'EXPLOSIFS VS PIEDS DE FORAGE
ABATTAGE CHAMBRES REMBLAYEES
MINE A
BON TERRAIN
LIVRES D'EXPLOSIFS
PIEDS DE FORAGE
pente : 0.440
0
1000
2000
3000
4000
5000

FIGURE A.29

LIVRES D'EXPLOSIFS VS PIEDS DE FORAGE
ABATTAGE CHAMBRES REMBLAYEES
MINE A

MAUVAIS TERRAIN

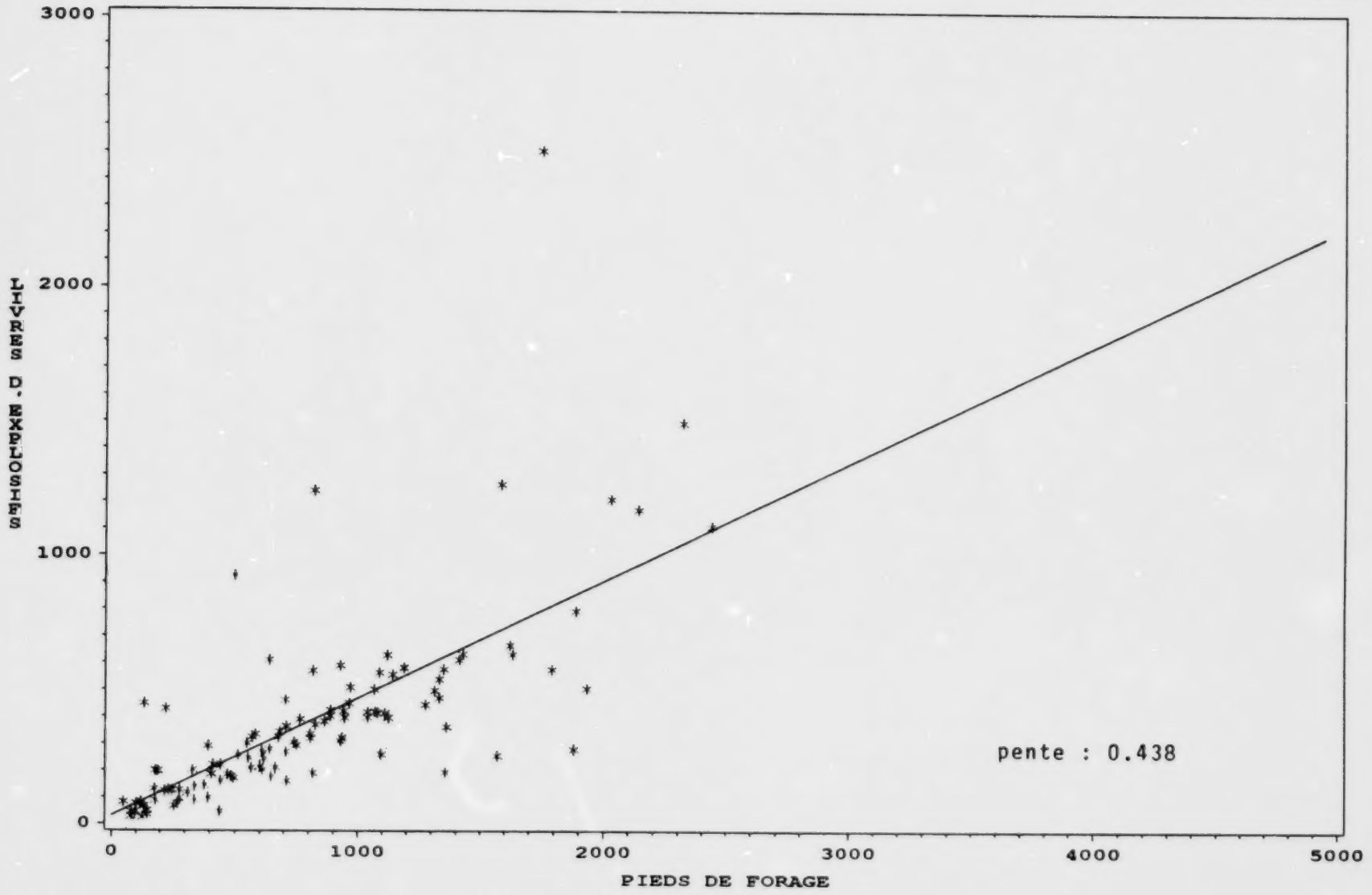


FIGURE A.30

PIEDS DE FORAGE VS QUARTS-HOMMES DE FORAGE
ABATTAGE CHAMBRES ET PILIERS
MINE A

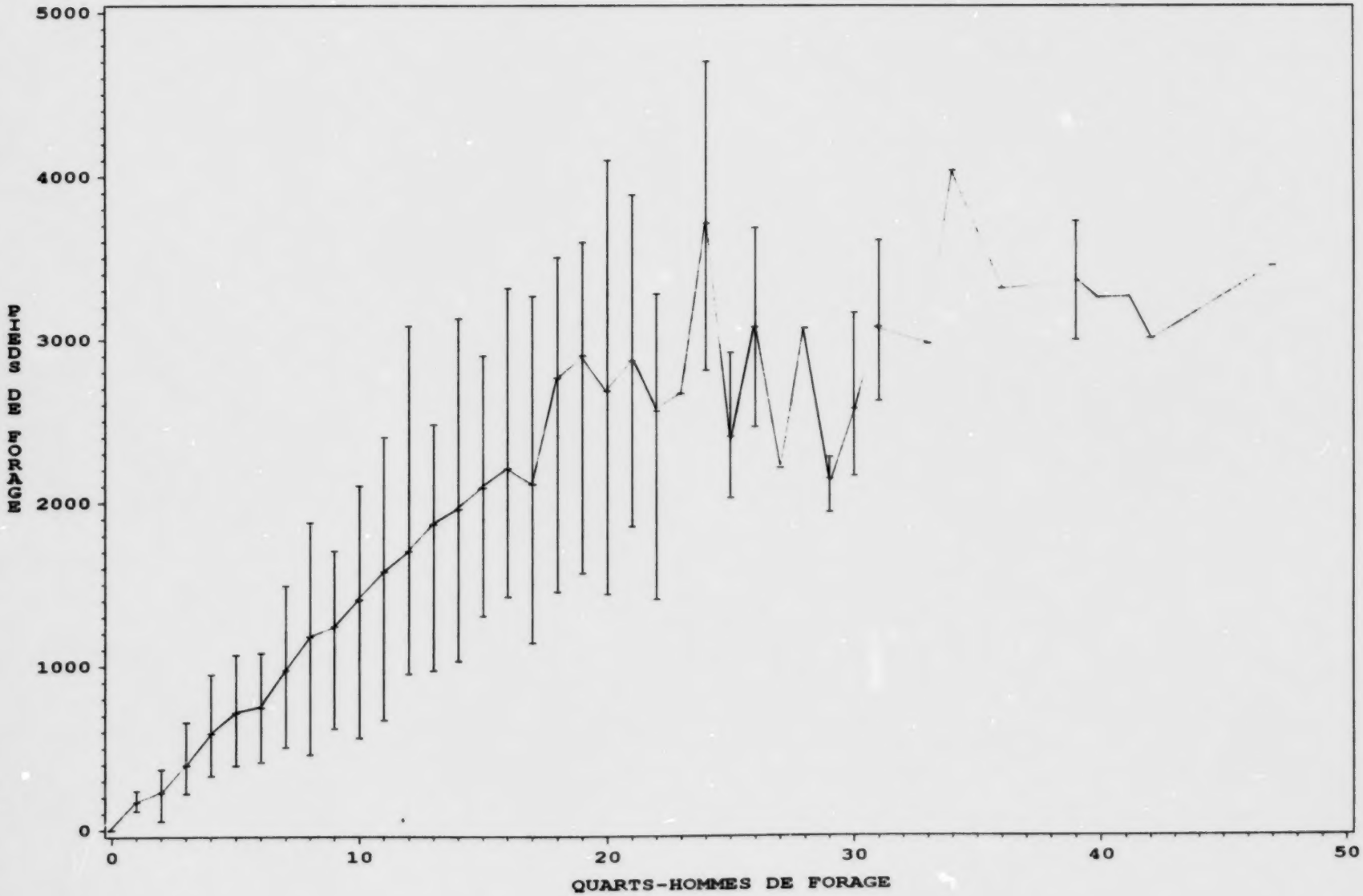


FIGURE A.31

PIEDS DE FORAGE VS QUARTS-HOMMES DE FORAGE
ABATTAGE CHAMBRES ET PILIERS
MINE A

BON TERRAIN

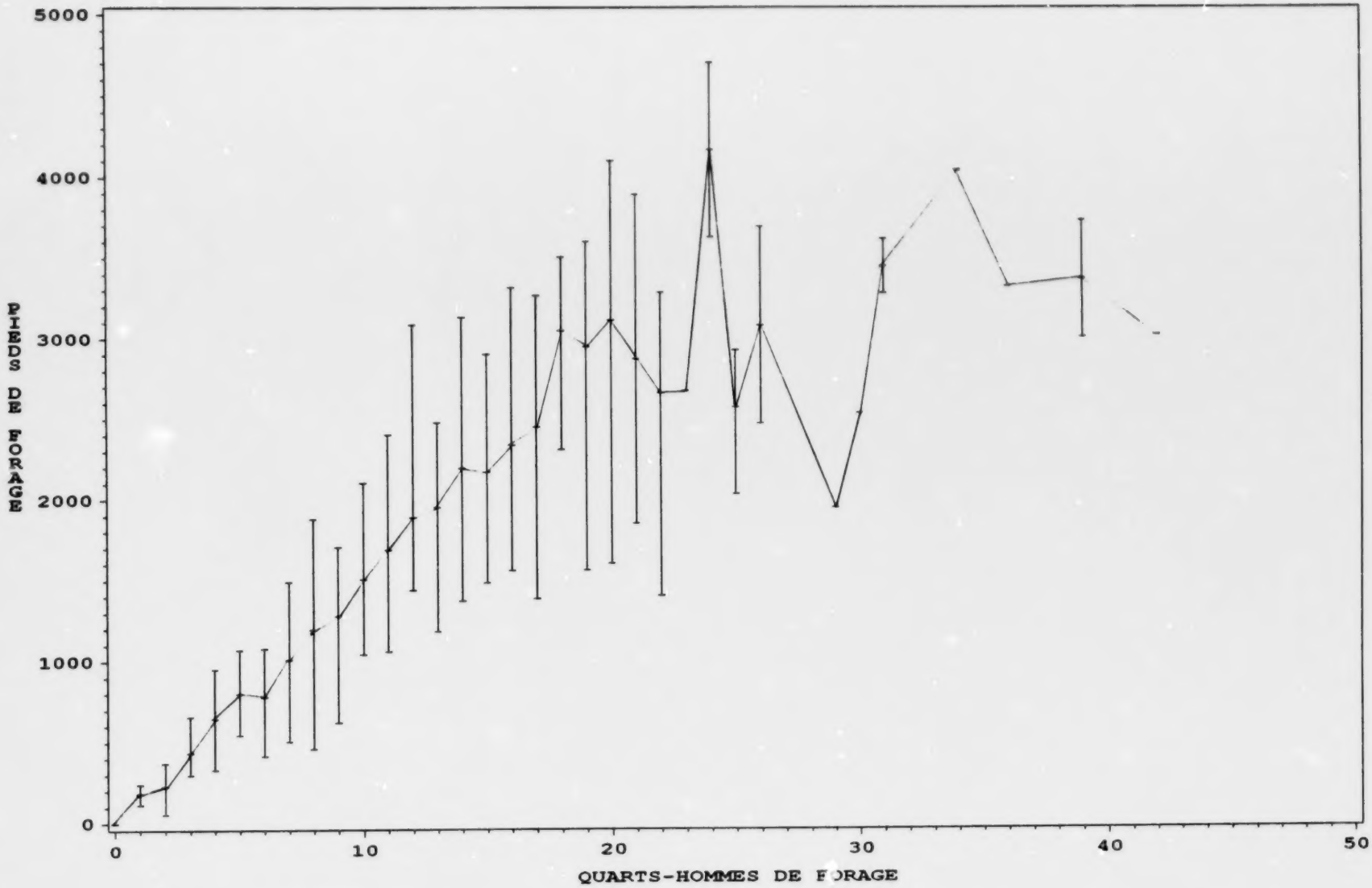


FIGURE A.32

PIEDS DE FORAGE VS QUARTS-HOMMES DE FORAGE
ABATTAGE CHAMBRES ET PILIERS
MINE A

MAUVAIS TERRAIN

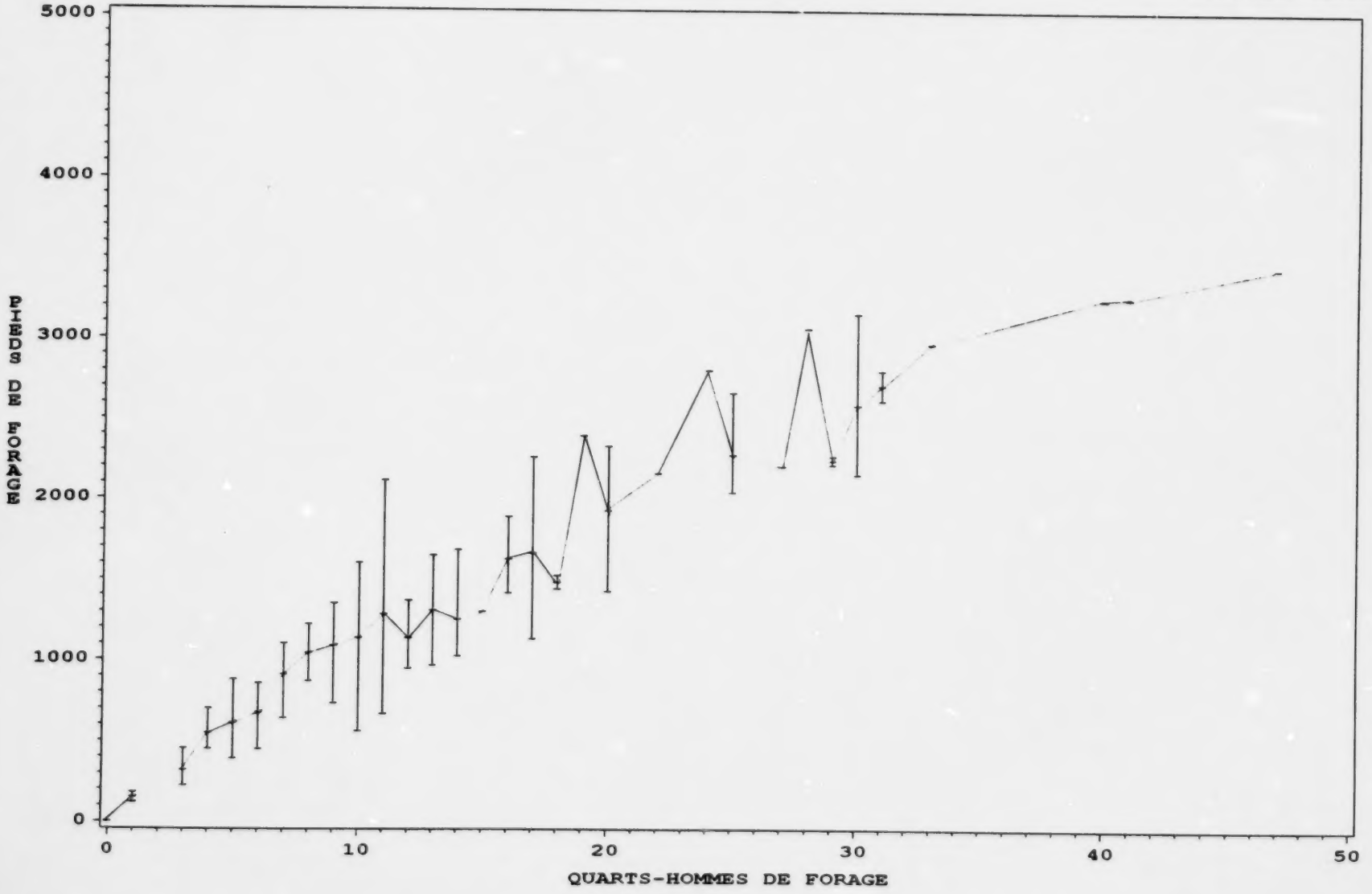


FIGURE A.33

PIEDS DE FORAGE VS QUARTS-HOMMES DE FORAGE
ABATTAGE CHAMBRES REMBLAYEES
MINE A

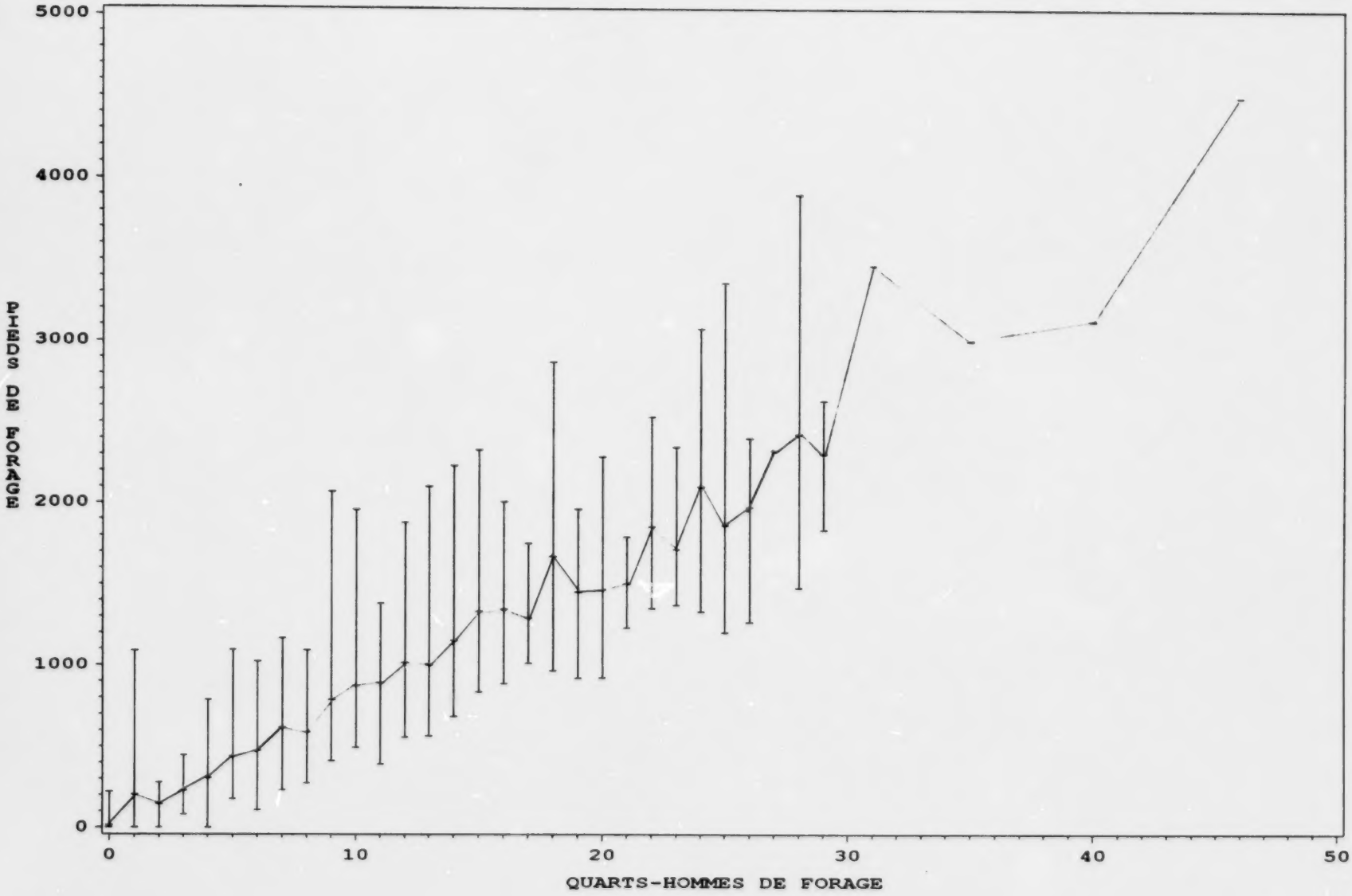


FIGURE A.34

PIEDS DE FORAGE VS QUARTS-HOMMES DE FORAGE
ABATTAGE CHAMBRES REMBLAYEES
MINE A

BON TERRAIN

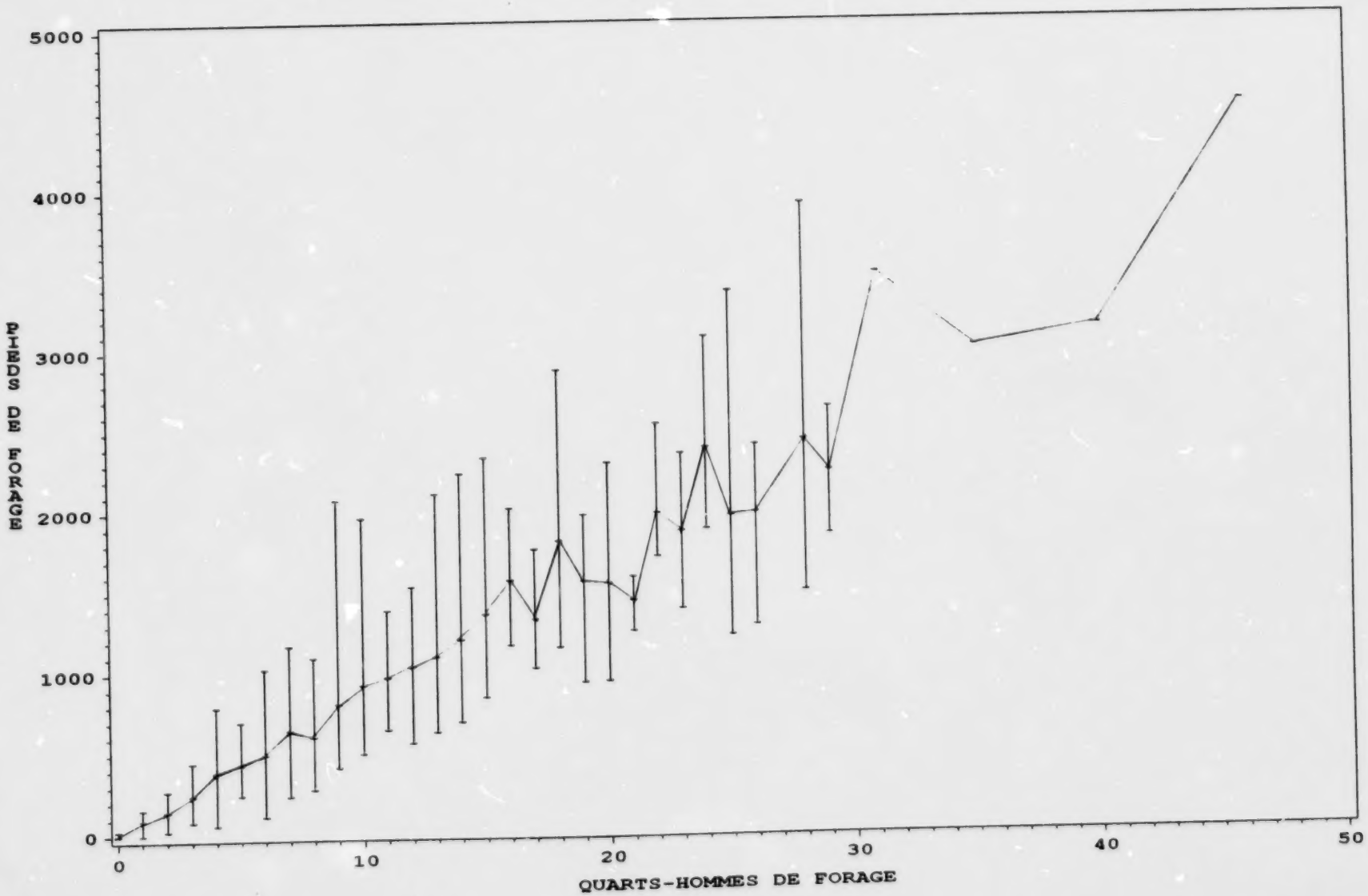


FIGURE A.35

PIEDS DE FORAGE VS QUARTS-HOMMES DE FORAGE
ABATTAGE CHAMBRES REMBLAYEES
MINE A

MAUVAIS TERRAIN

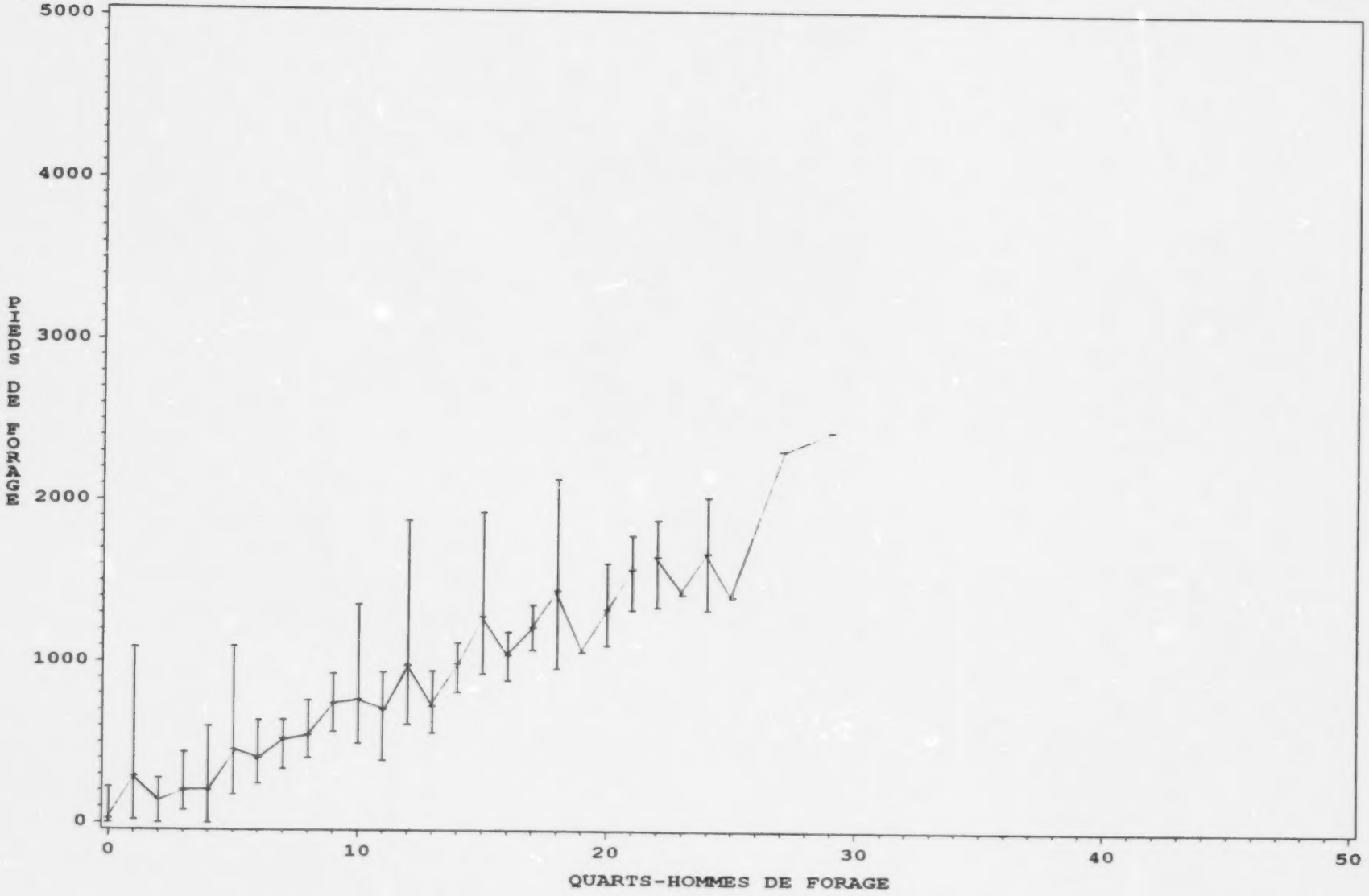


FIGURE A.36

TONNES CASSEES VS QUARTS-HOMMES DE FORAGE
ABATTAGE CHAMBRES ET PILIERS
MINE A

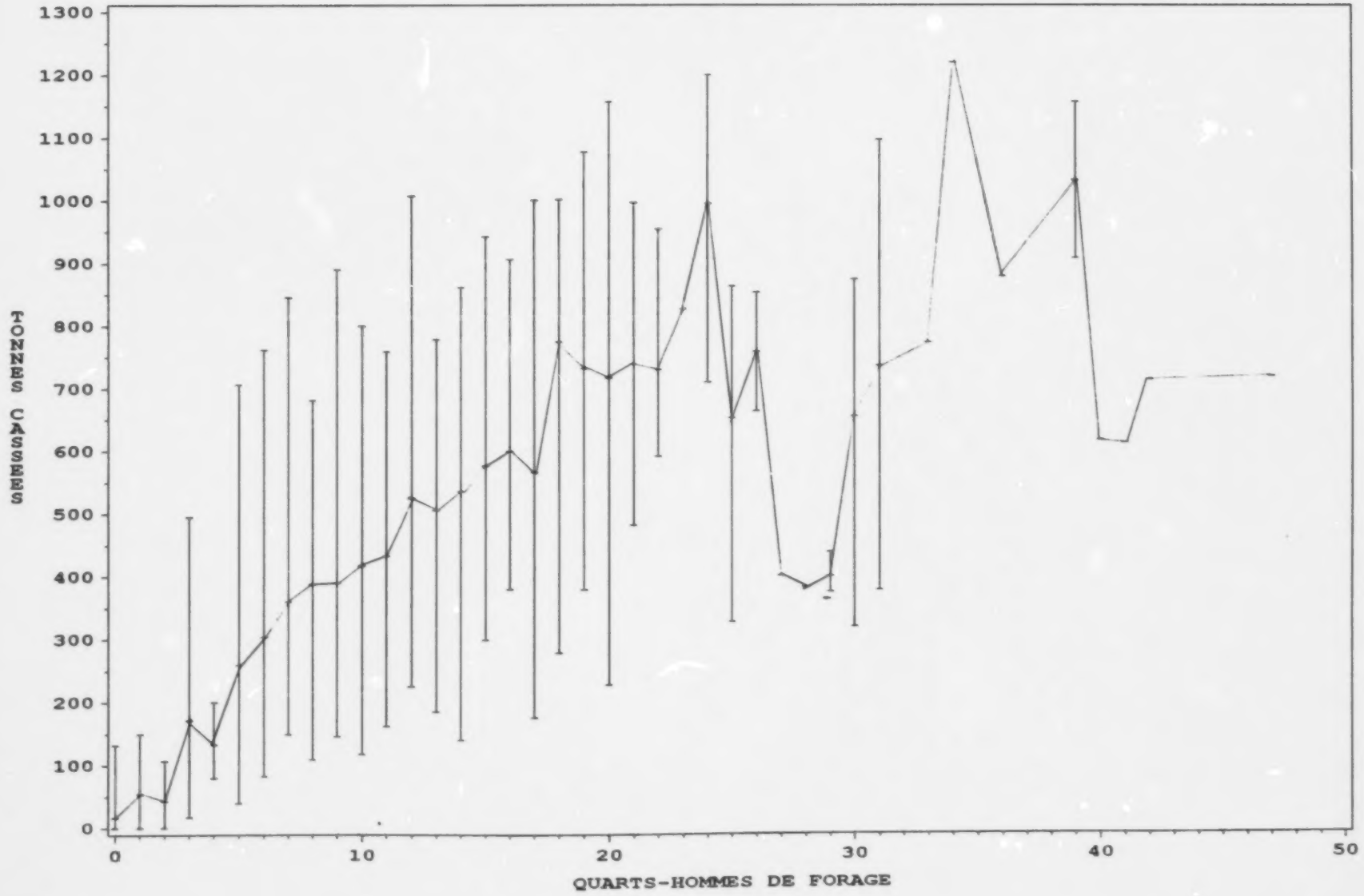


FIGURE A.37

TONNES CASSEES VS QUARTS-HOMMES DE FORAGE
ABATTAGE CHAMBRES REMBLAYEES
MINE A

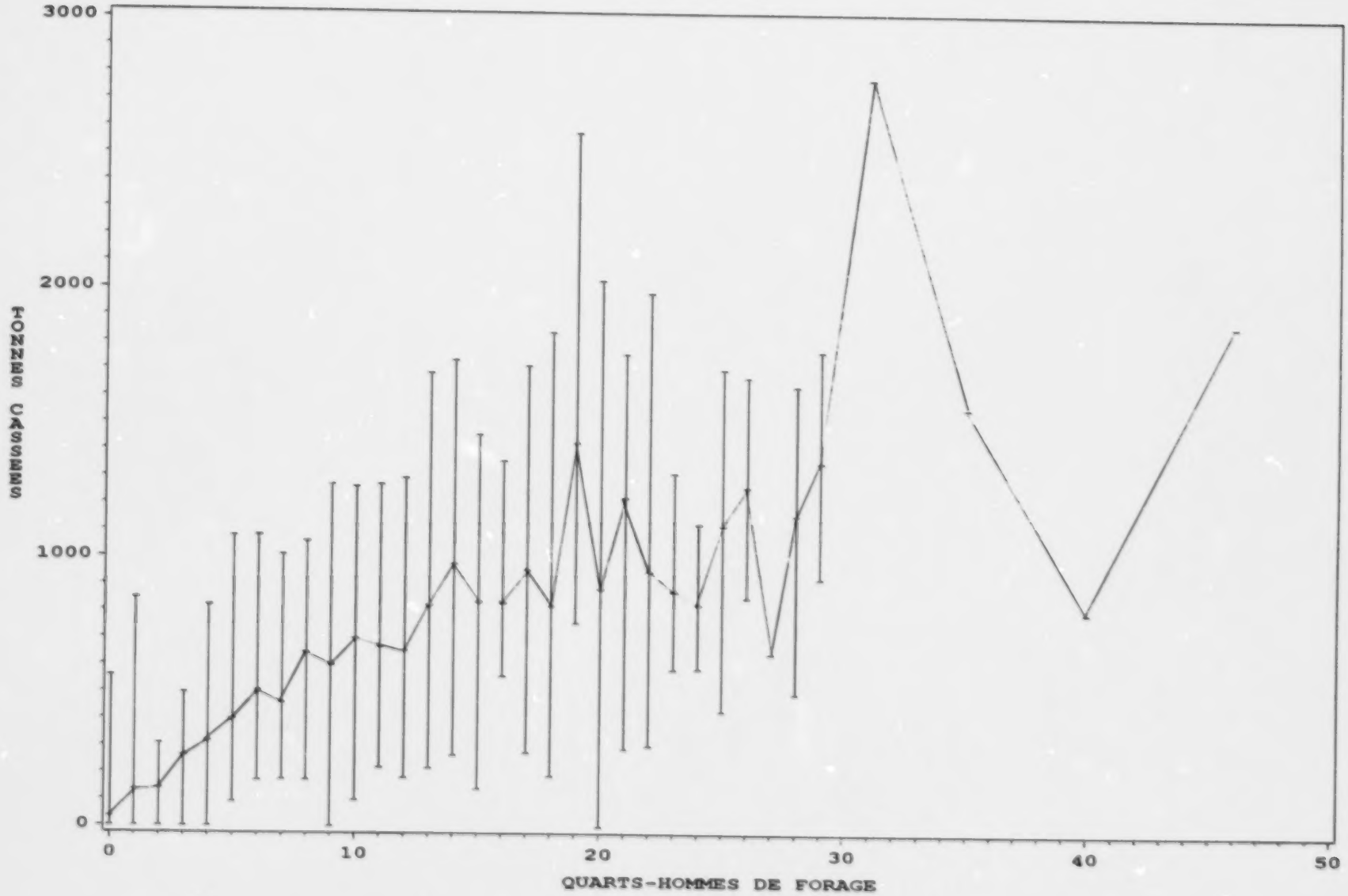


FIGURE A.38

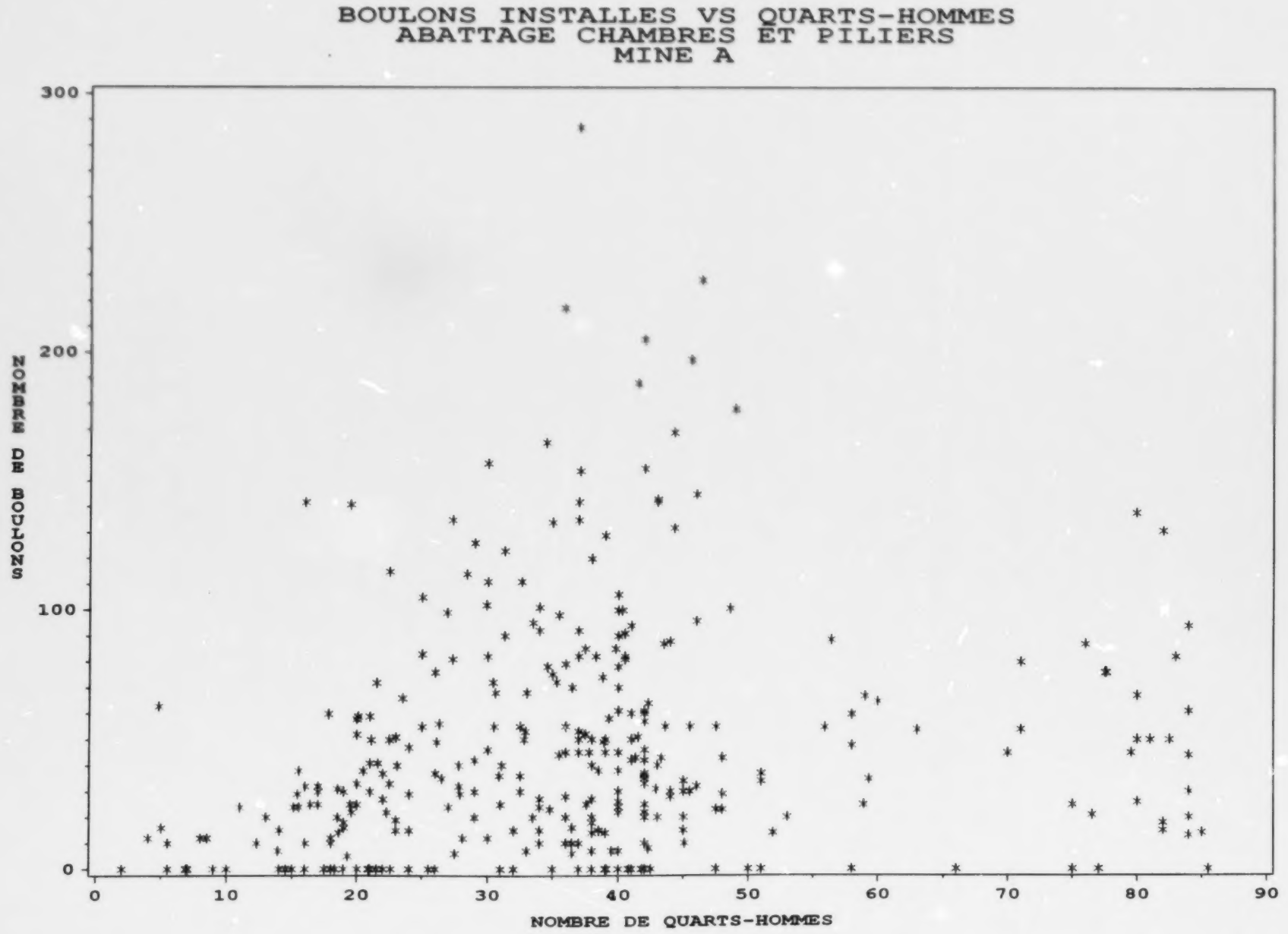

BOULONS INSTALLES VS QUARTS-HOMMES
ABATTAGE CHAMBRES ET PILIERS
MINE A
NOMBRE DE BOULONS
300
200
100
0
0
10
20
30
40
50
60
70
80
90
NOMBRE DE QUARTS-HOMMES

FIGURE A.39

BOULONS INSTALLES VS QUARTS-HOMMES
ABATTAGE CHAMBRES ET PILIERS
MINE A

BON TERRAIN

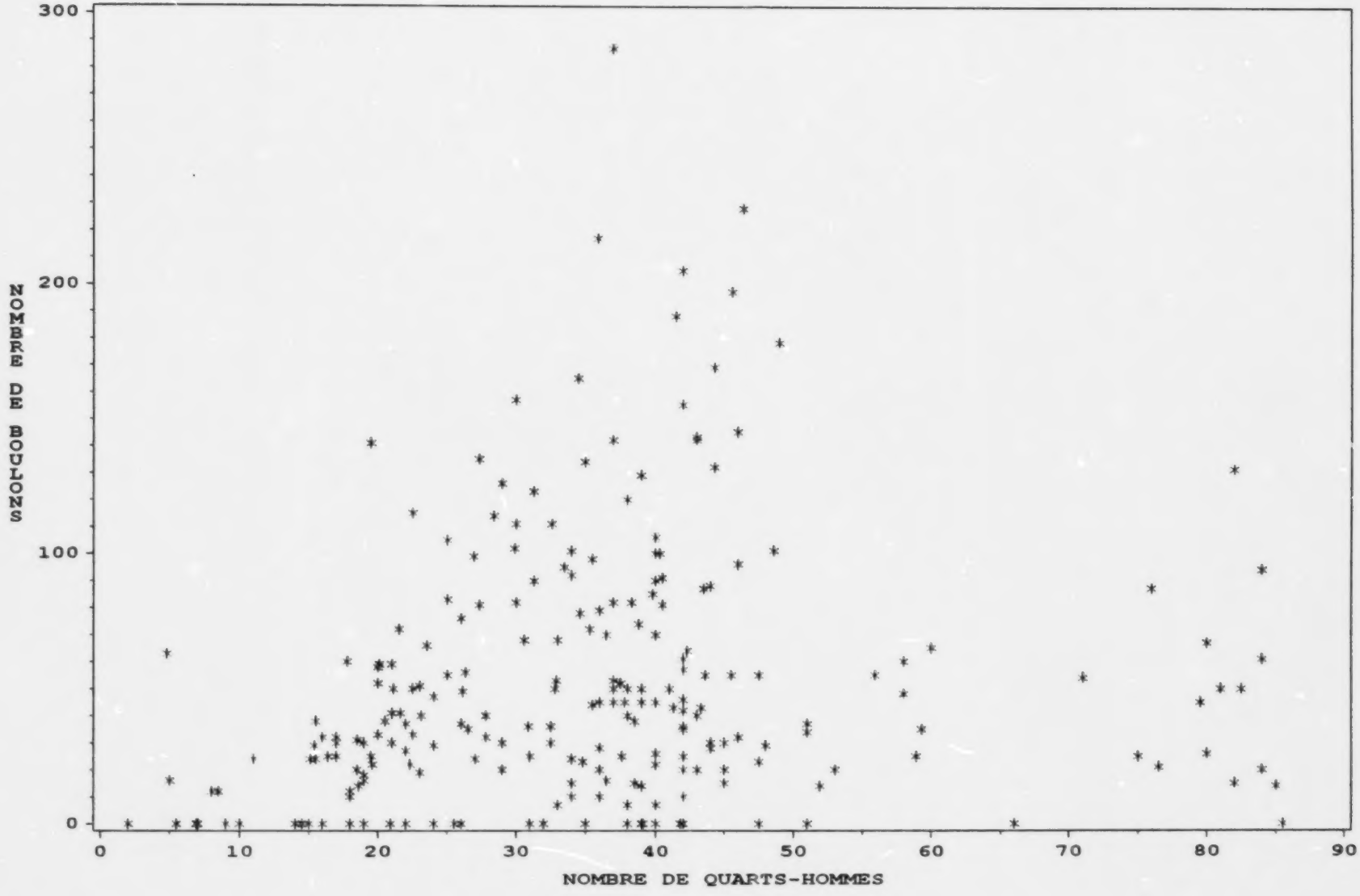


FIGURE A.40

BOULONS INSTALLES VS QUARTS-HOMMES
ABATTAGE CHAMBRES ET PILIERS
MINE A

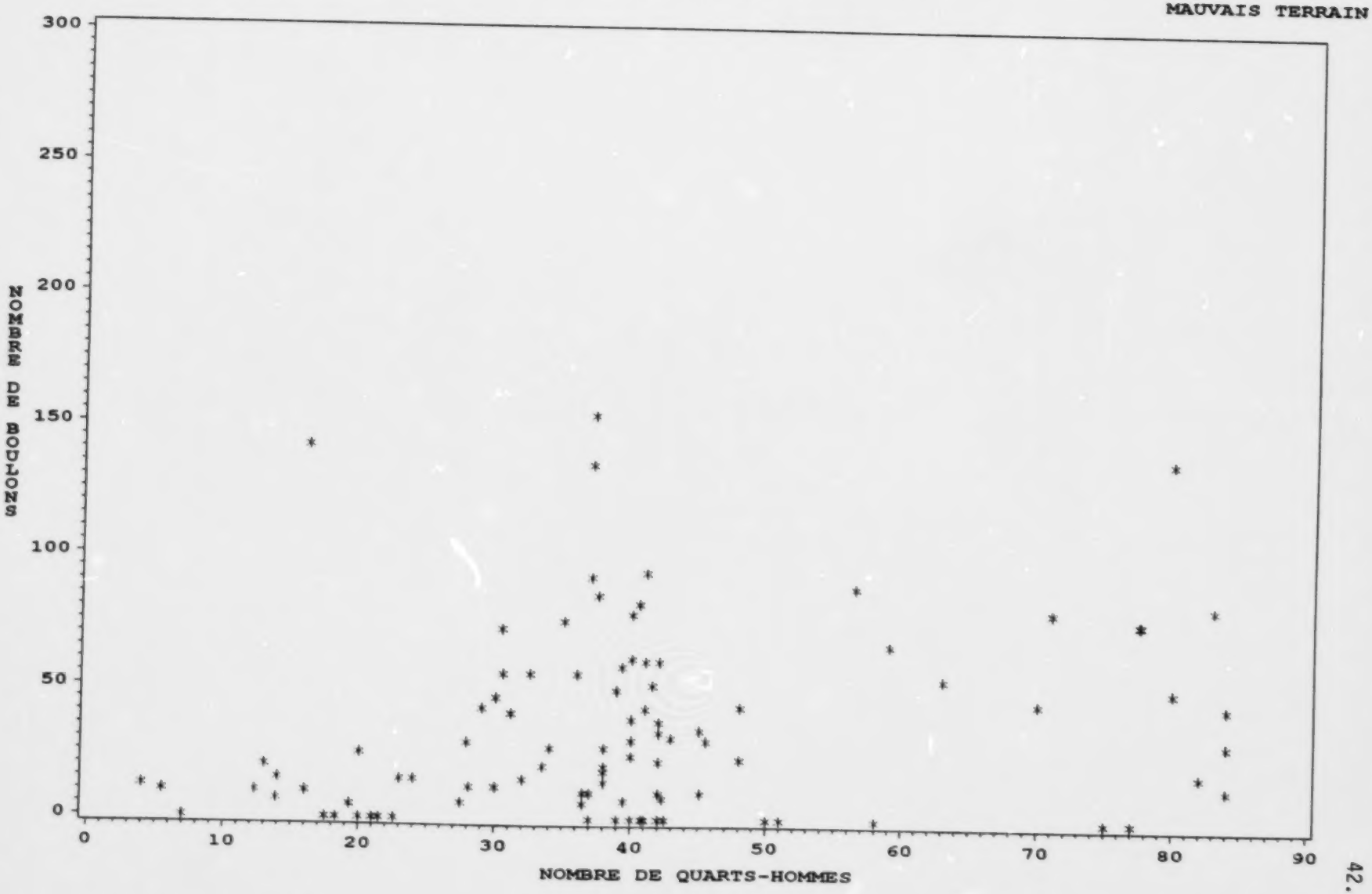


FIGURE A.41

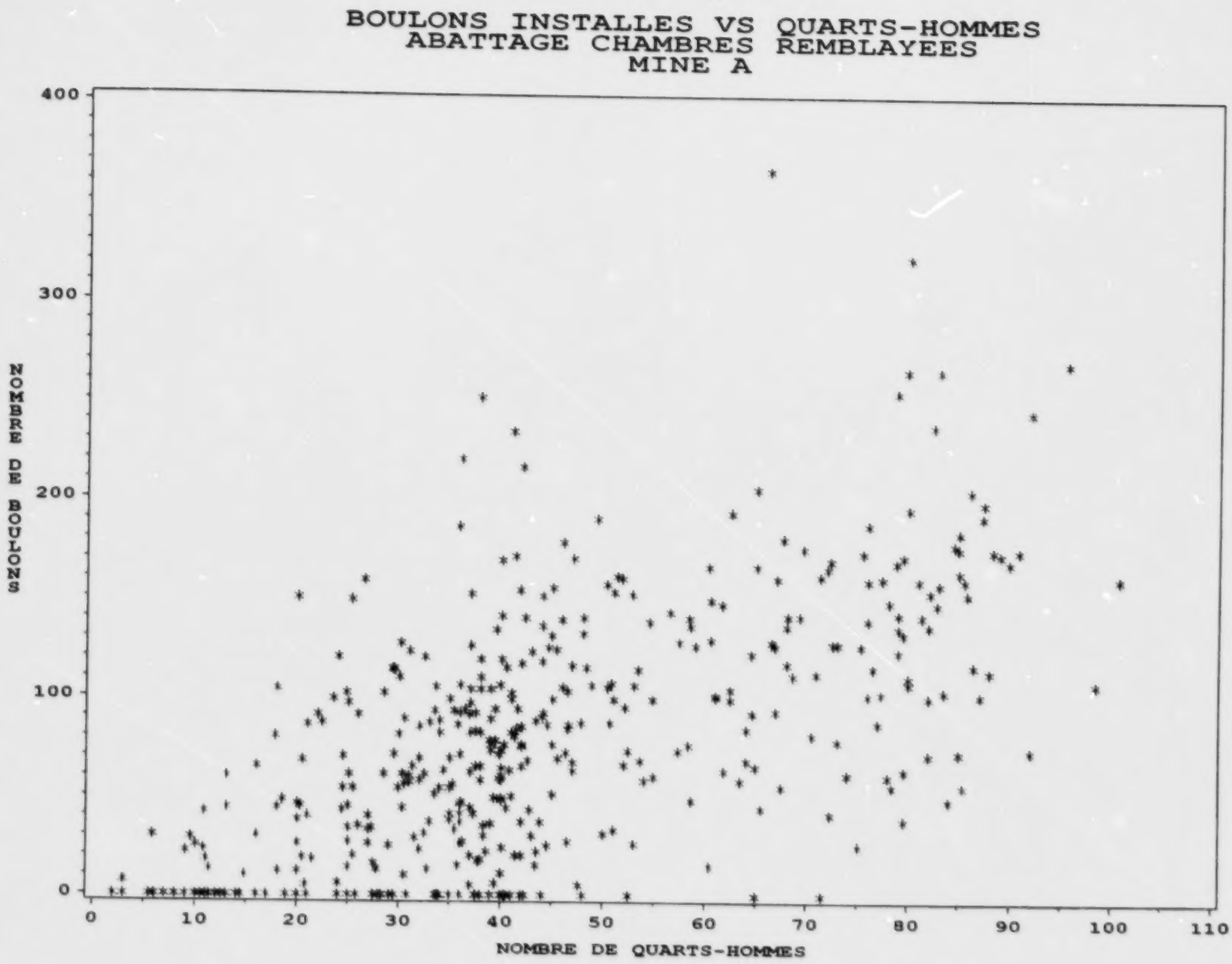

BOULONS INSTALLES VS QUARTS-HOMMES
ABATTAGE CHAMBRES REMBLAYEES
MINE A
NOMBRE DE BOULONS
400
300
200
100
0
0
10
20
30
40
50
60
70
80
90
100
110
NOMBRE DE QUARTS-HOMMES

FIGURE A.42

BOULONS INSTALLES VS QUARTS-HOMMES
ABATTAGE CHAMBRES REMBLAYEES
MINE A

BON TERRAIN

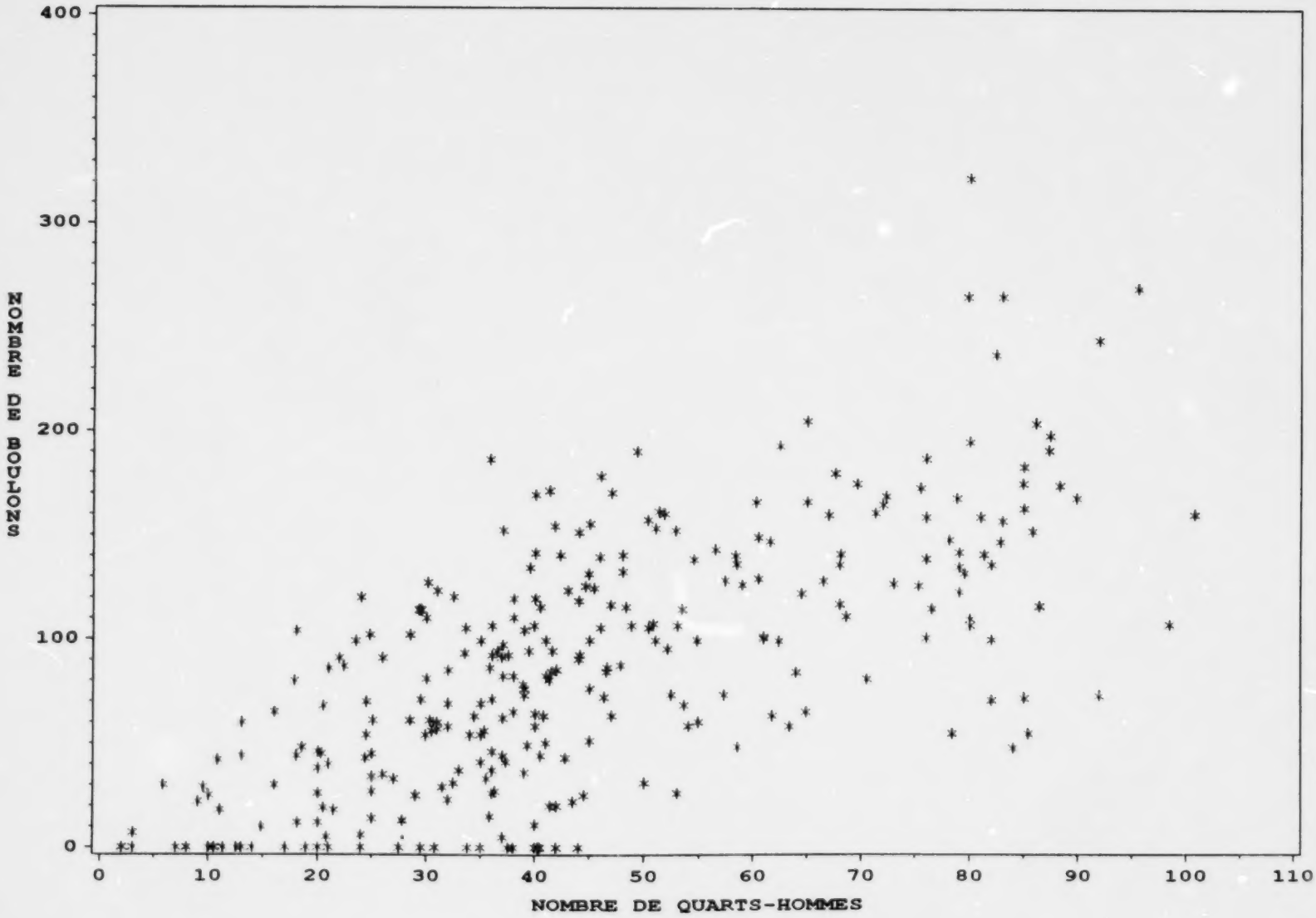


FIGURE A.43

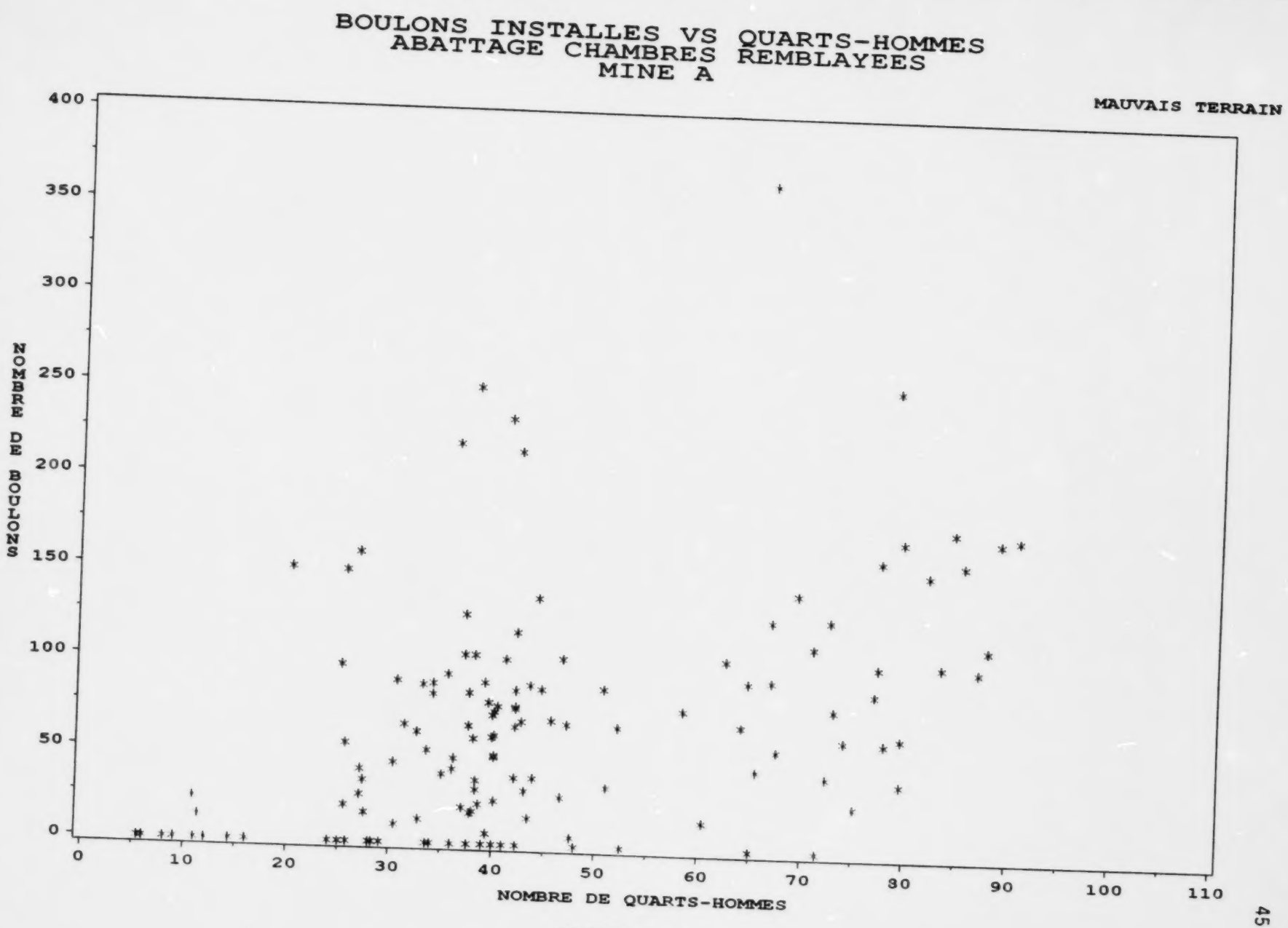

BOULONS INSTALLES VS QUARTS-HOMMES
ABATTAGE CHAMBRES REMBLAYEES
MINE A
MAUVAIS TERRAIN
NOMBRE DE BOULONS
400
350
300
250
200
150
100
50
0
0
10
20
30
40
50
60
70
80
90
100
110
NOMBRE DE QUARTS-HOMMES

FIGURE A.44

NOMBRE DE BOULONS VS TONNES PAR QUART-HOMME
ABATTAGE CHAMBRES ET PILIERS
MINE A

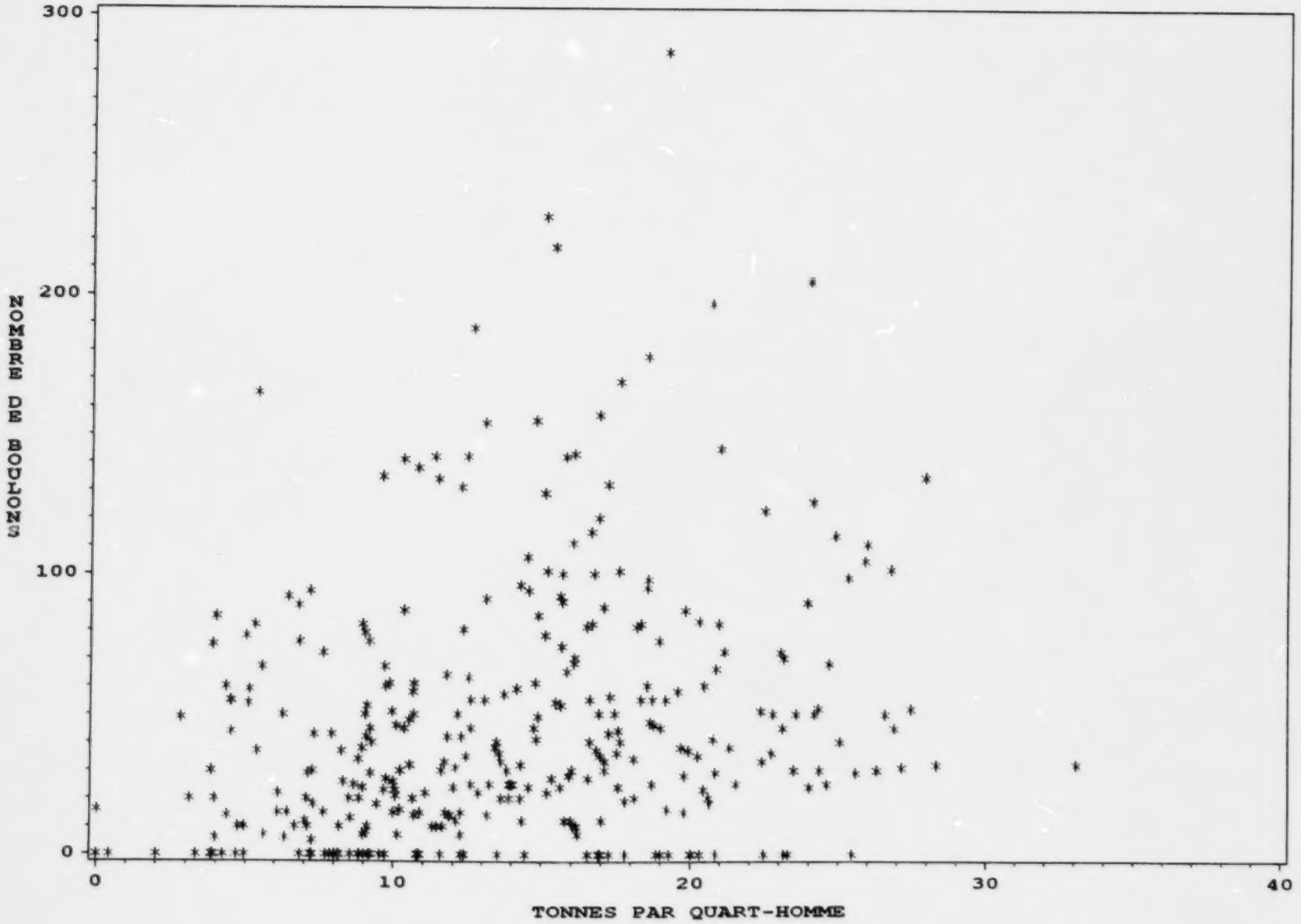


FIGURE A.45

NOMBRE DE BOULONS VS TONNES PAR QUART-HOMME
ABATTAGE CHAMBRES ET PILIERS
MINE A

BON TERRAIN

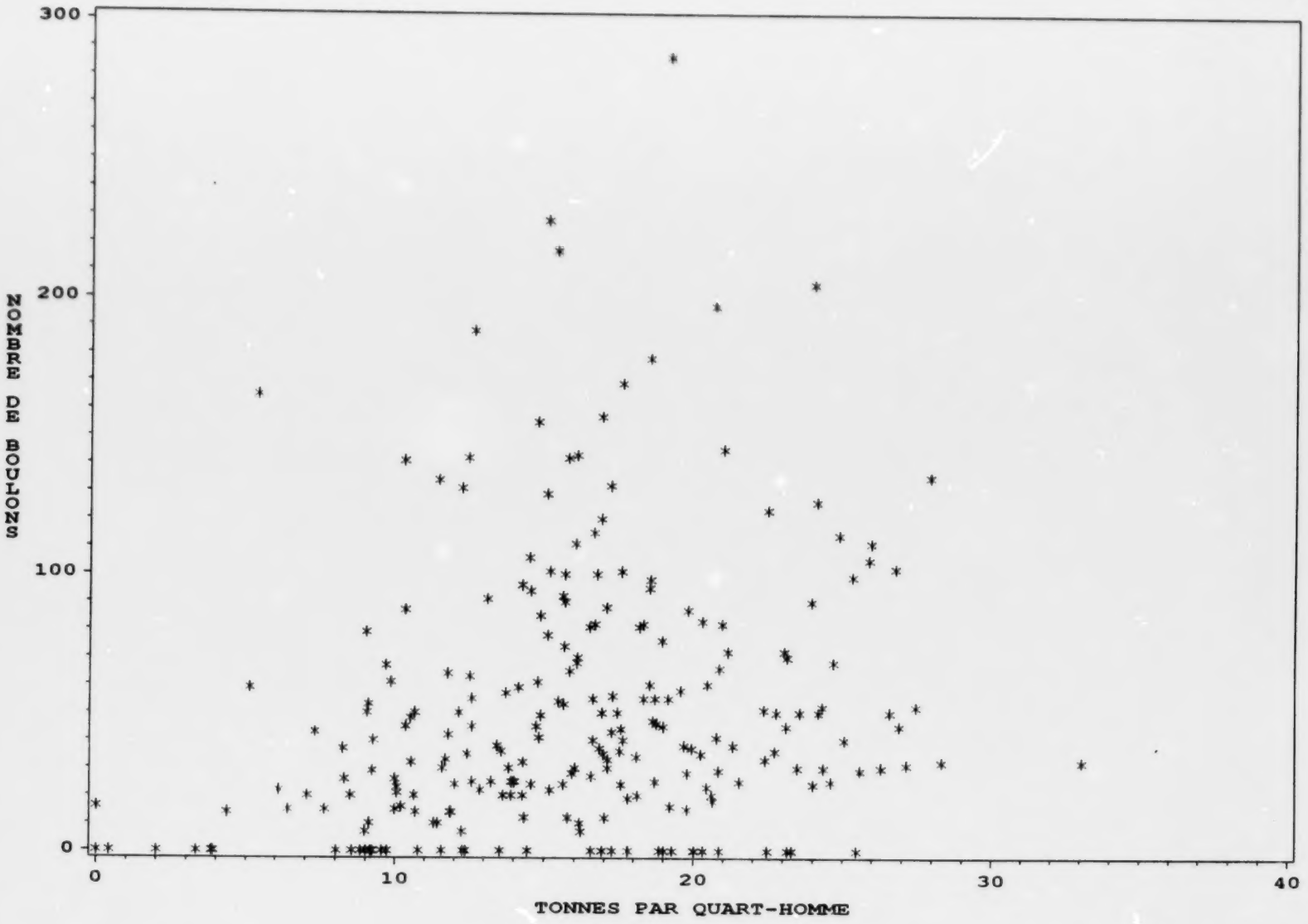


FIGURE A.46

NOMBRE DE BOULONS VS TONNES PAR QUART-HOMME
ABATTAGE CHAMBRES ET PILIERS
MINE A

MAUVAIS TERRAIN

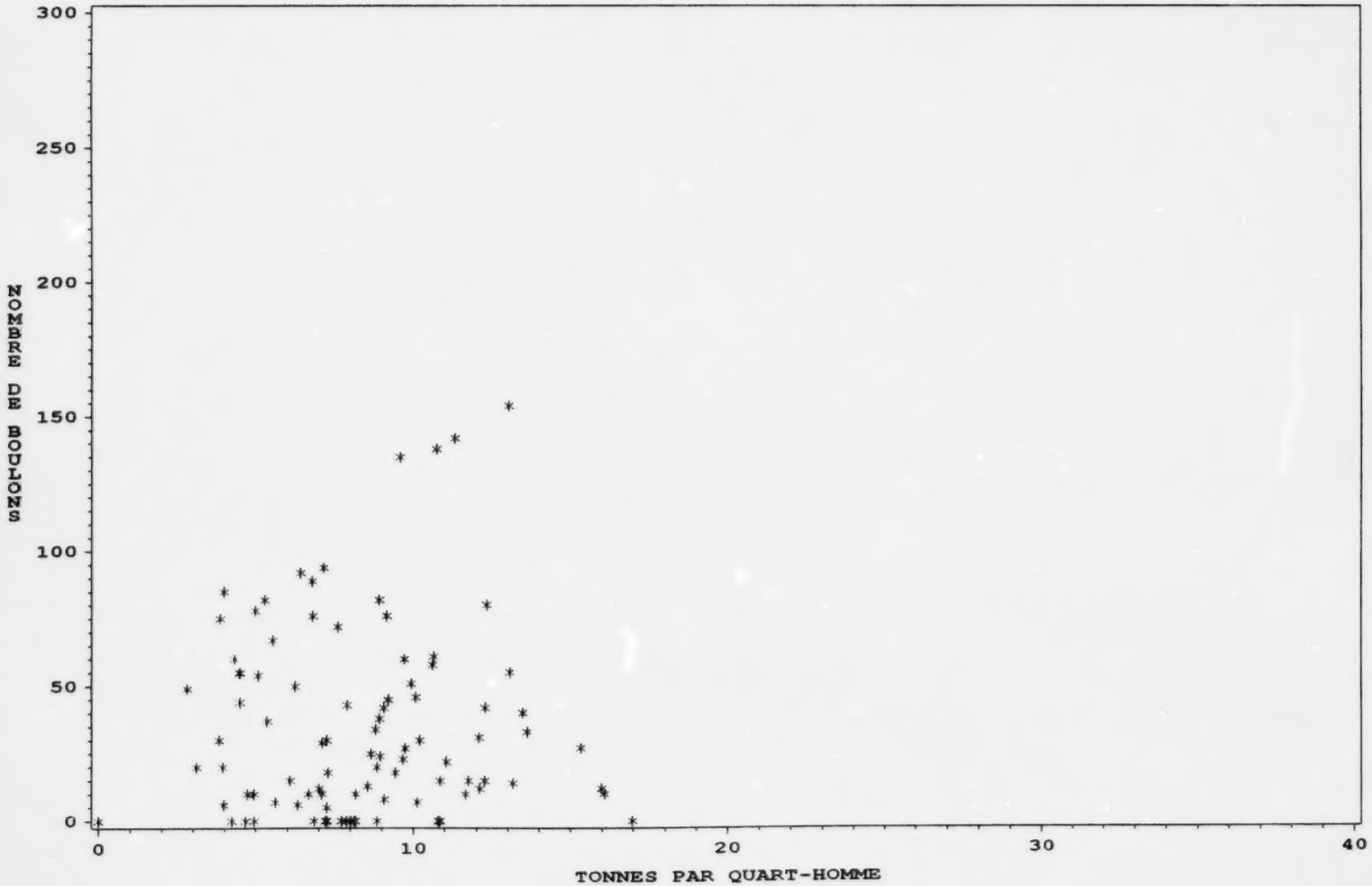


FIGURE A.47

NOMBRE DE BOULONS VS TONNES PAR QUART-HOMME
ABATTAGE CHAMBRES REMBLAYEES
MINE A

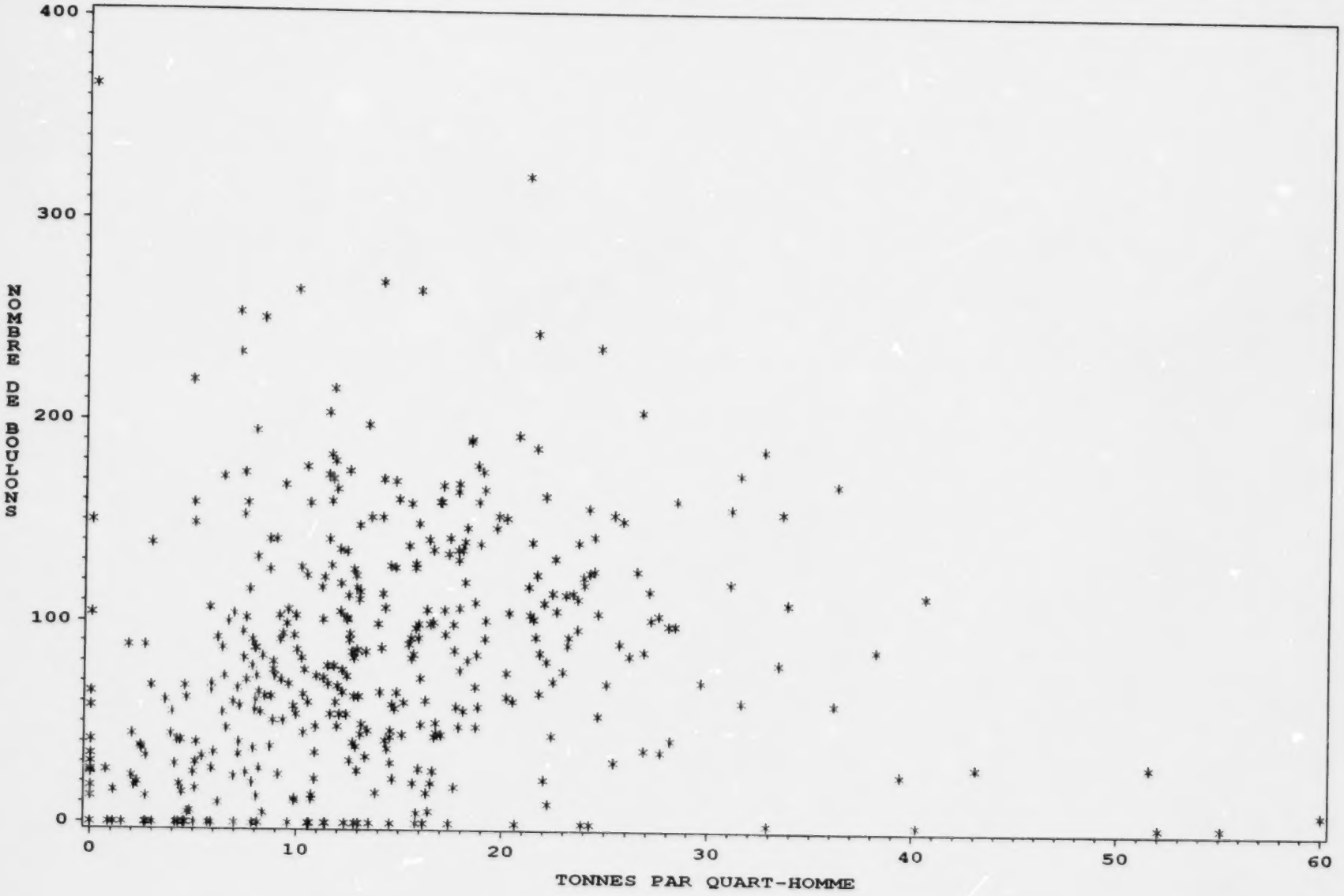


FIGURE A.48

NOMBRE DE BOULONS VS TONNES PAR QUART-HOMME
ABATTAGE CHAMBRES REMBLAYÉES
MINE A

BON TERRAIN

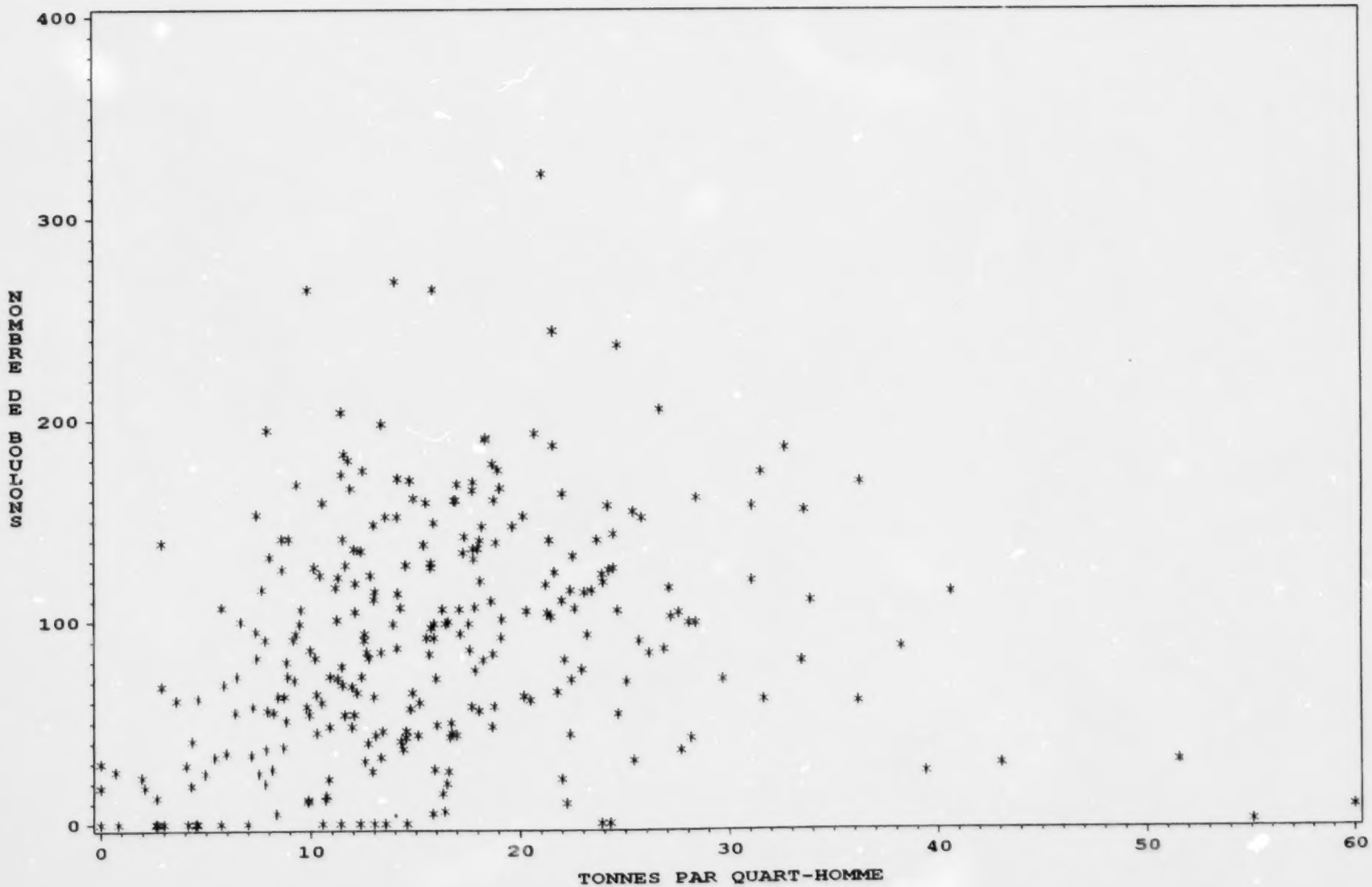


FIGURE A.49

NOMBRE DE BOULONS VS TONNES PAR QUART-HOMME
ABATTAGE CHAMBRES REMBLAYEES
MINE A

MAUVAIS TERRAIN

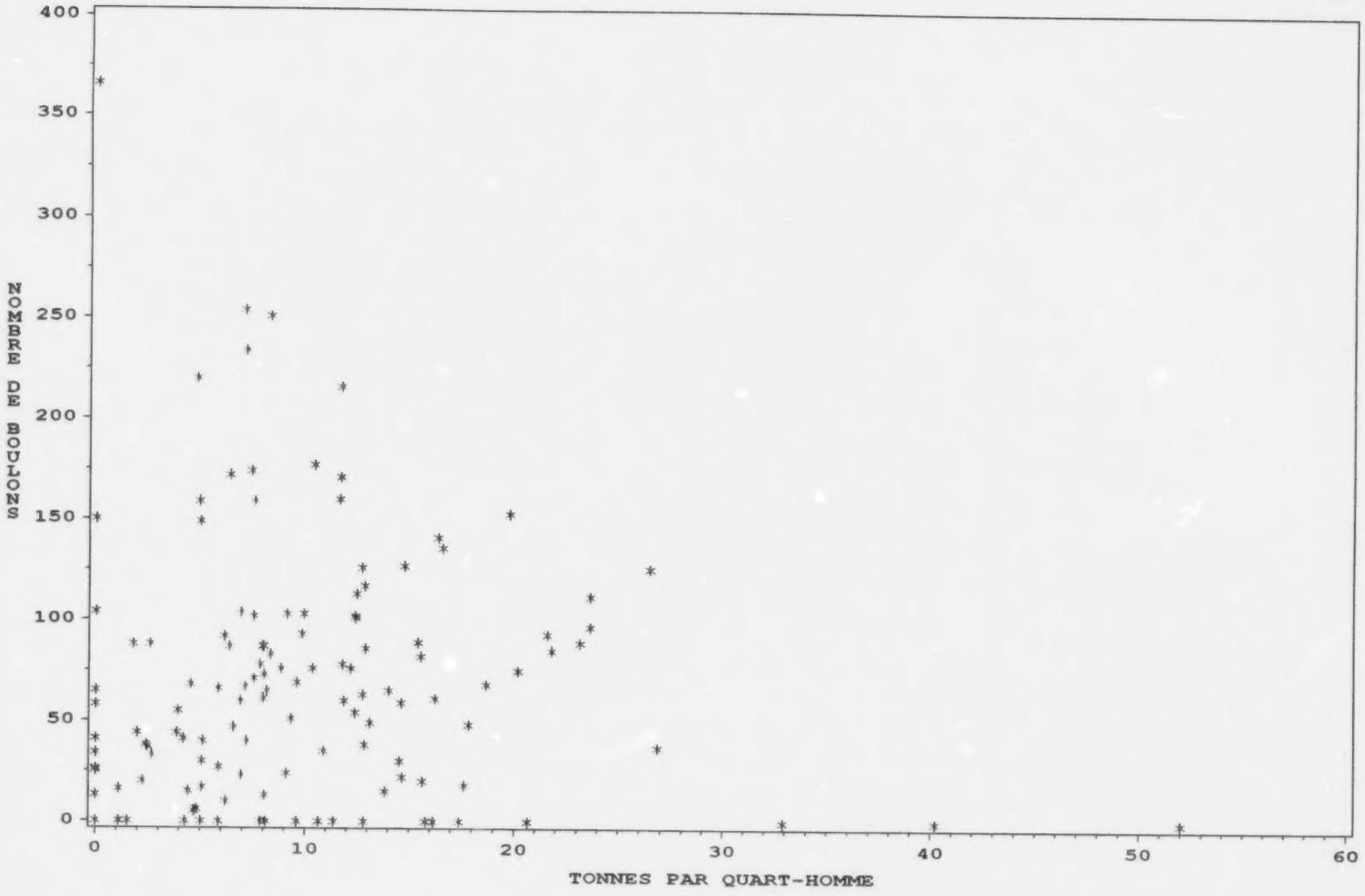
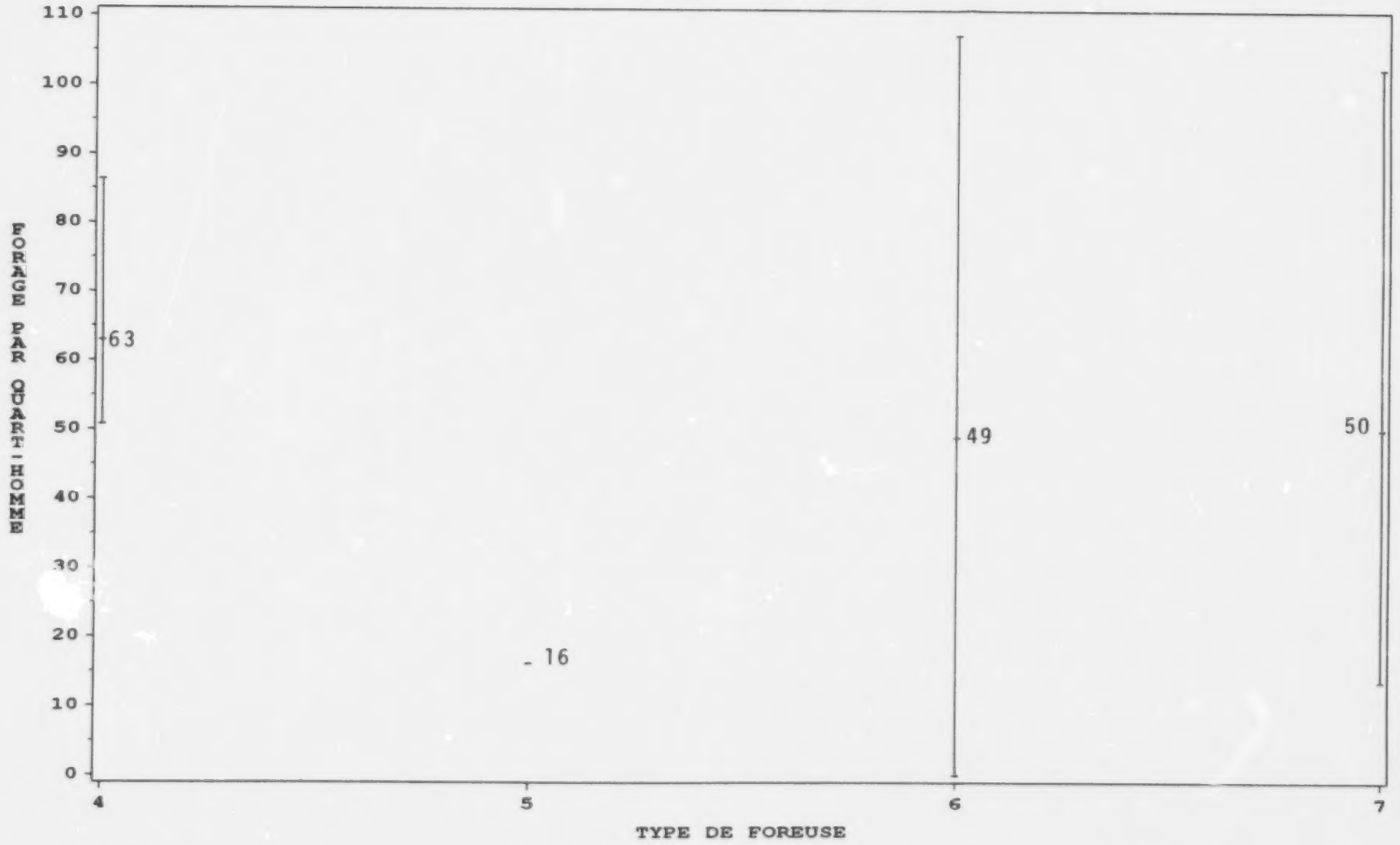


FIGURE A.50

FORAGE PAR QUART-HOMME VS TYPE DE FOREUSE
ABATTAGE CHAMBRES ET PILIERS
MINE A



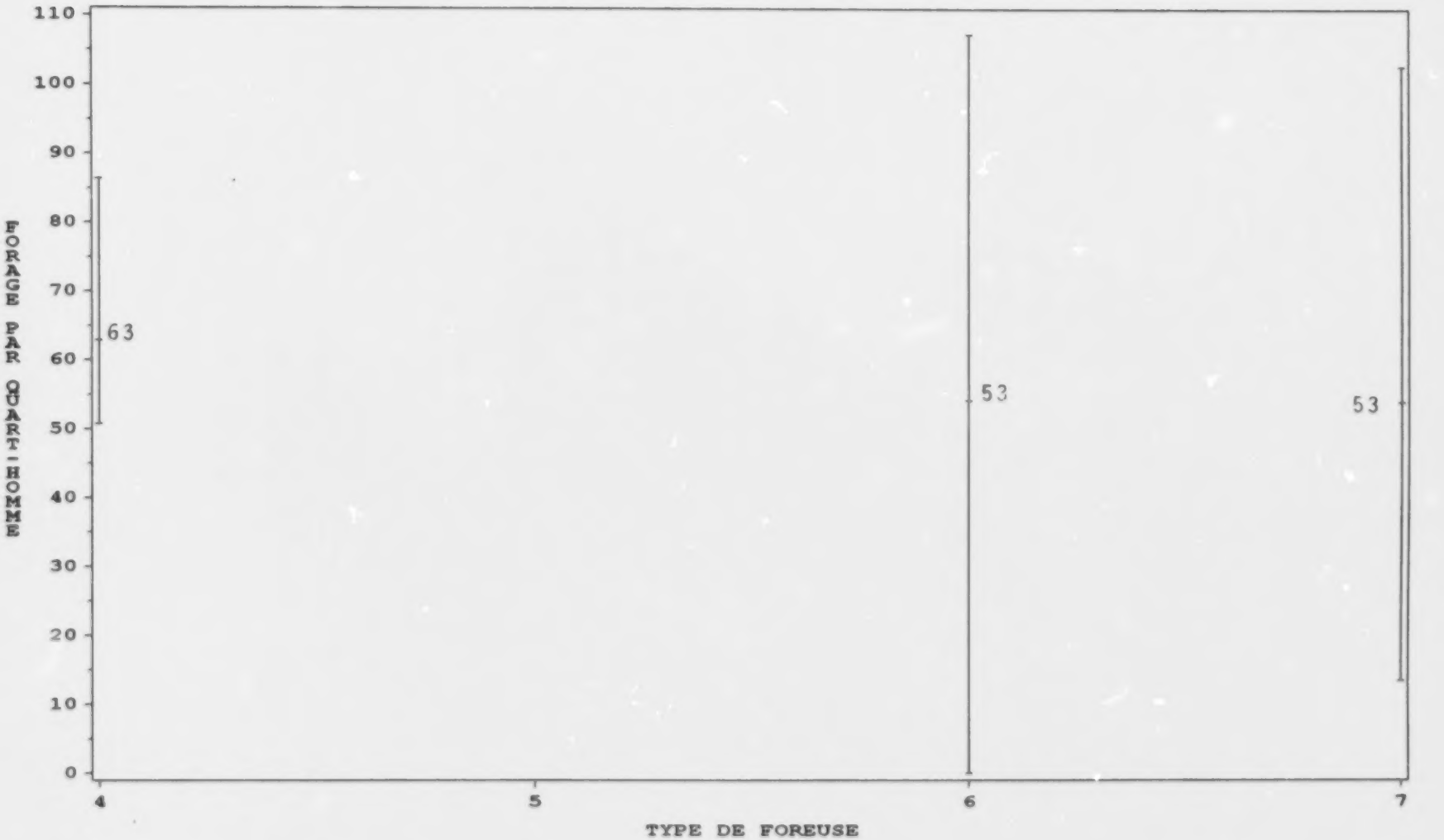
NOTE: FORAGE EN PIEDS

TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

FIGURE A.51

FORAGE PAR QUART-HOMME VS TYPE DE FOREUSE
ABATTAGE CHAMBRES ET PILIERS
MINE A

BON TERRAIN



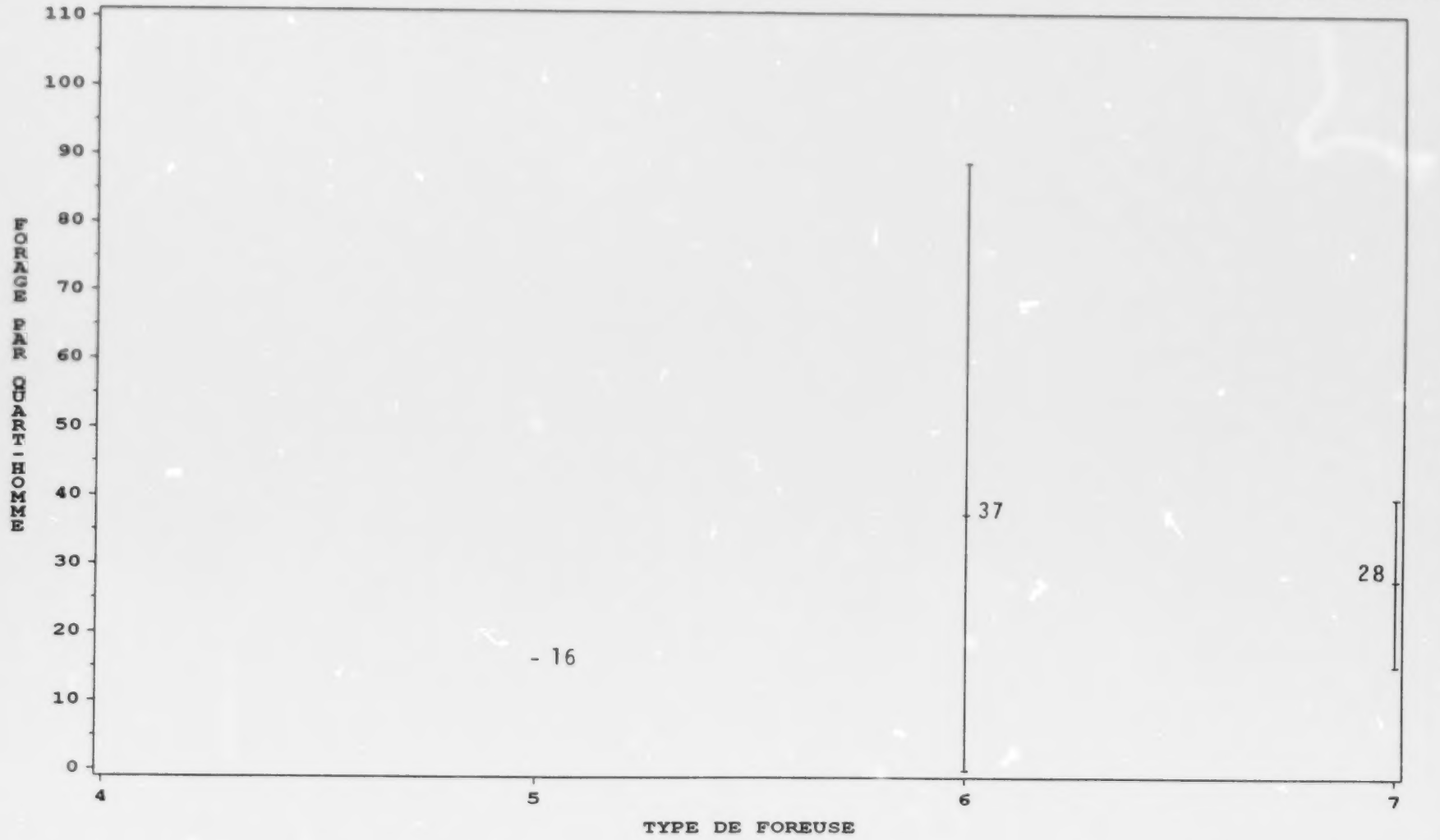
NOTE: FORAGE EN PIEDS

TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

FIGURE A.52

FORAGE PAR QUART-HOMME VS TYPE DE FOREUSE
ABATTAGE CHAMBRES ET PILIERS
MINE A

MAUVAIS TERRAIN

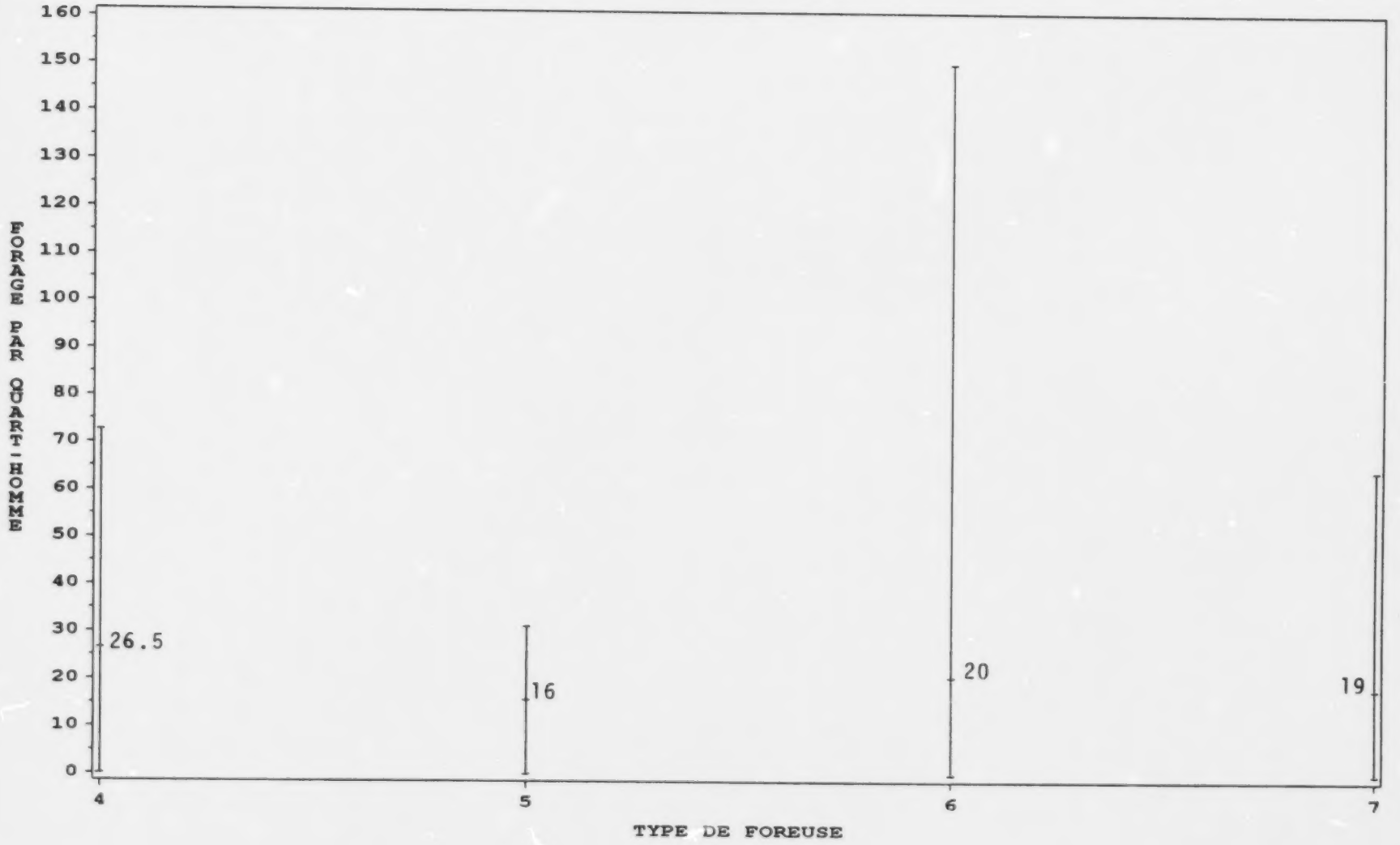


TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

NOTE: FORAGE EN PIEDS

FIGURE A.53

FORAGE PAR QUART-HOMME VS TYPE DE FOREUSE
ABATTAGE CHAMBRES REMBLAYEES
MINE A



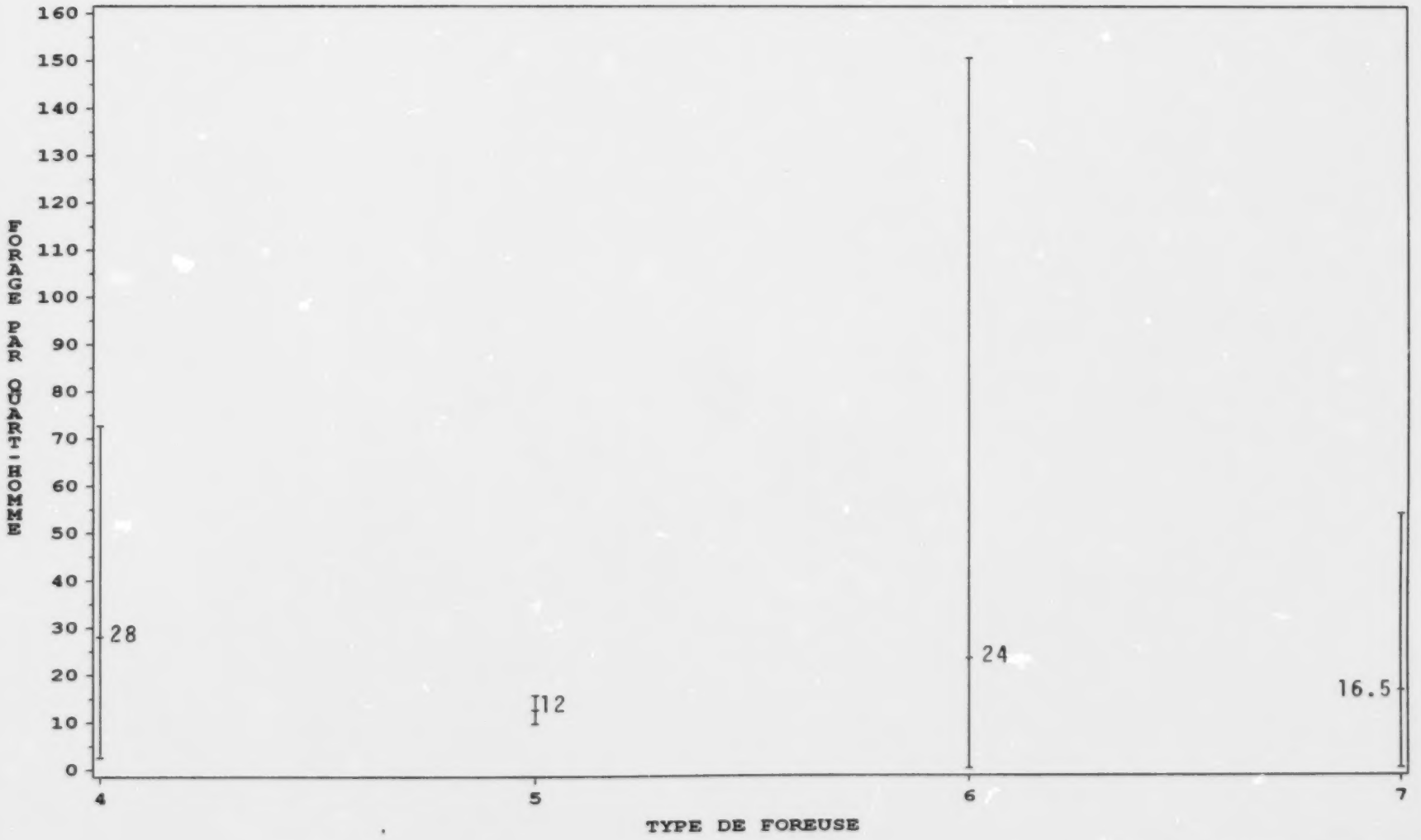
TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

NOTE: FORAGE EN PIEDS

FIGURE A.54

FORAGE PAR QUART-HOMME VS TYPE DE FOREUSE
ABATTAGE CHAMBRES REMBLAYEES
MINE A

BON TERRAIN



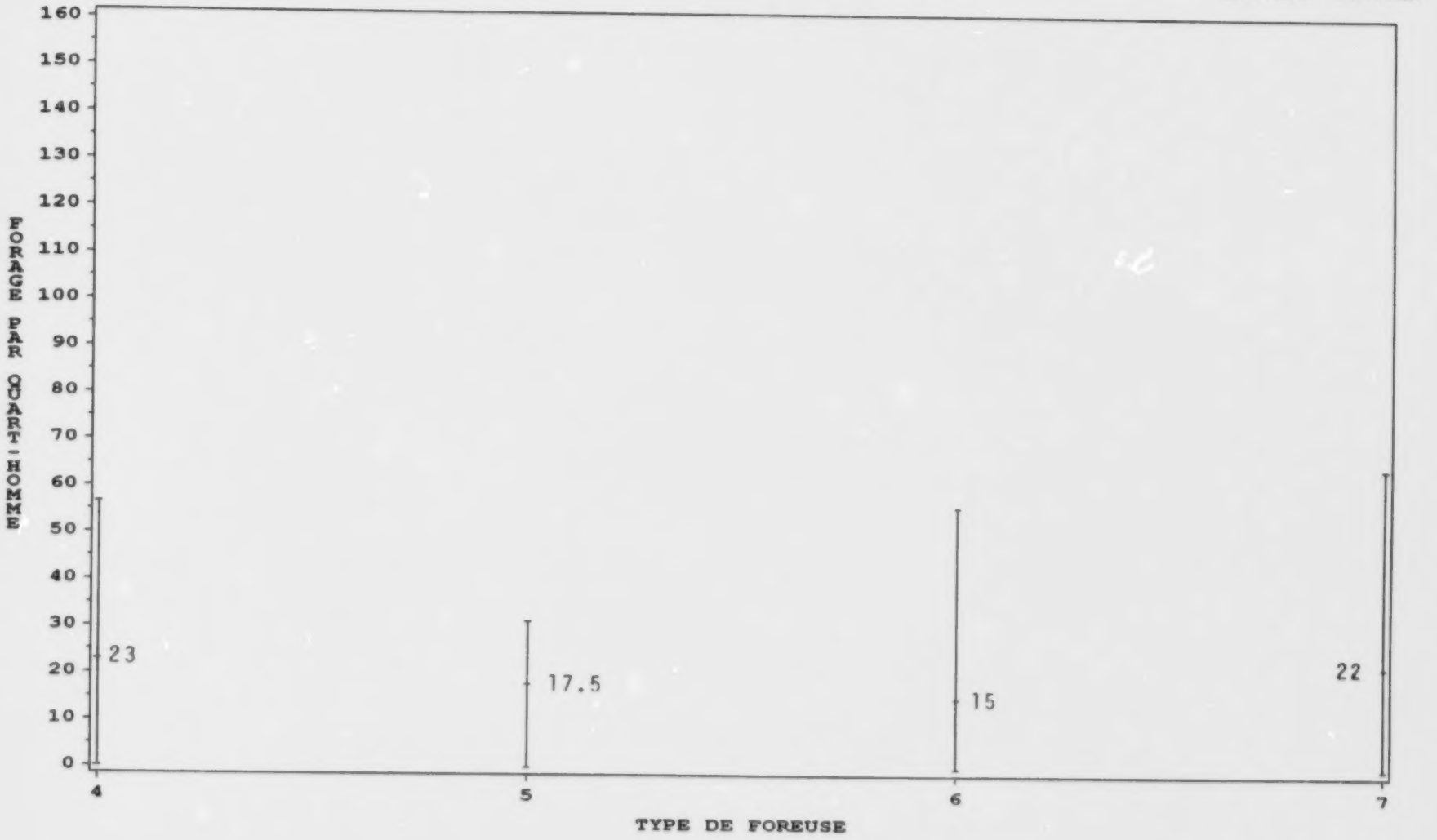
NOTE: FORAGE EN PIEDS

TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

FIGURE A.55

FORAGE PAR QUART-HOMME VS TYPE DE FOREUSE
ABATTAGE CHAMBRES REMBLAYEES
MINE A

MAUVAIS TERRAIN

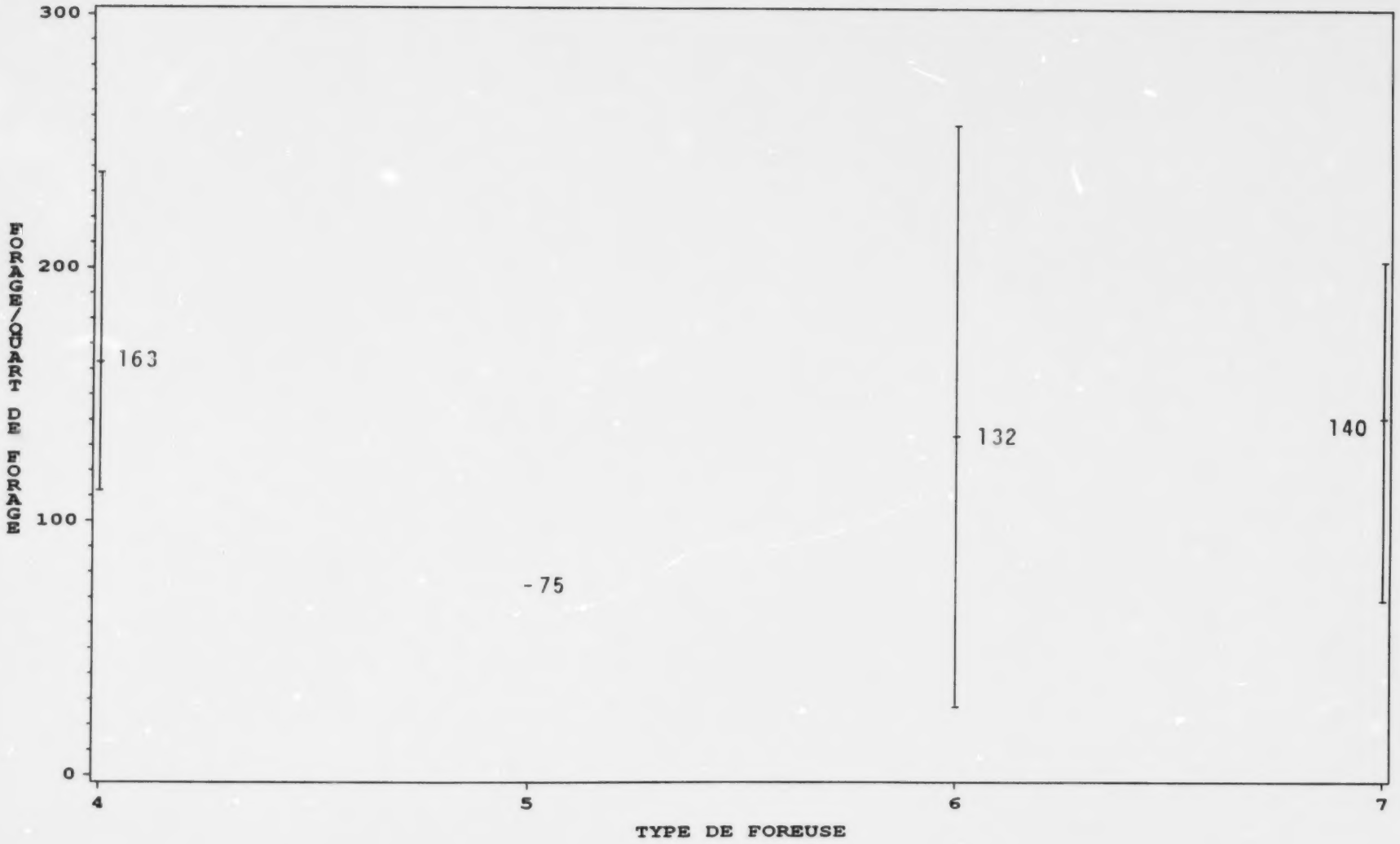


TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

NOTE: FORAGE EN PIEDS

FIGURE A.56

FORAGE/QUART DE FORAGE VS TYPE DE FOREUSE
ABATTAGE CHAMBRES ET PILIERS
MINE A



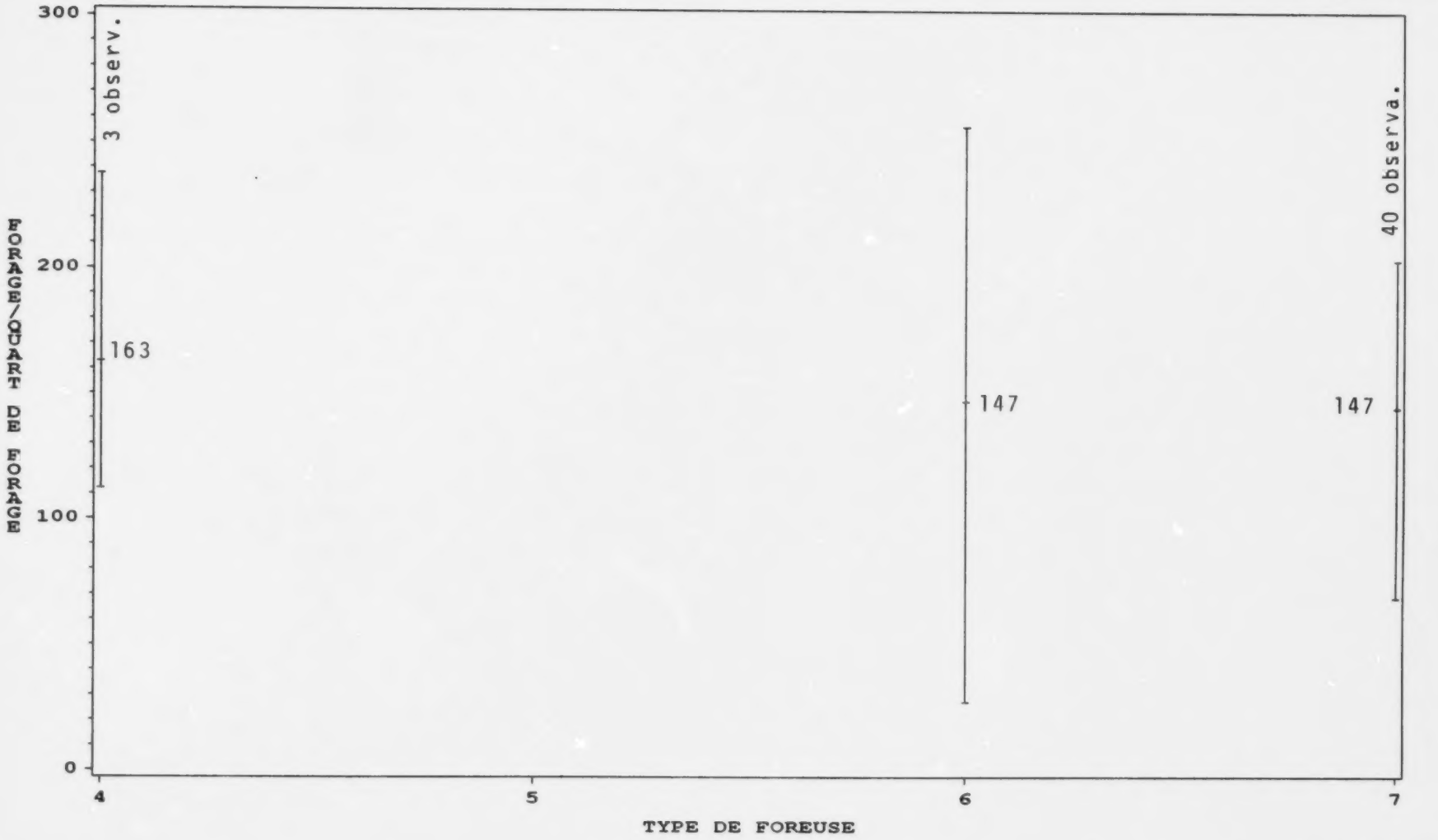
NOTE: FORAGE EN PIEDS

TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

FIGURE A.57

FORAGE/QUART DE FORAGE VS TYPE DE FOREUSE
ABATTAGE CHAMBRES ET PILIERS
MINE A

BON TERRAIN



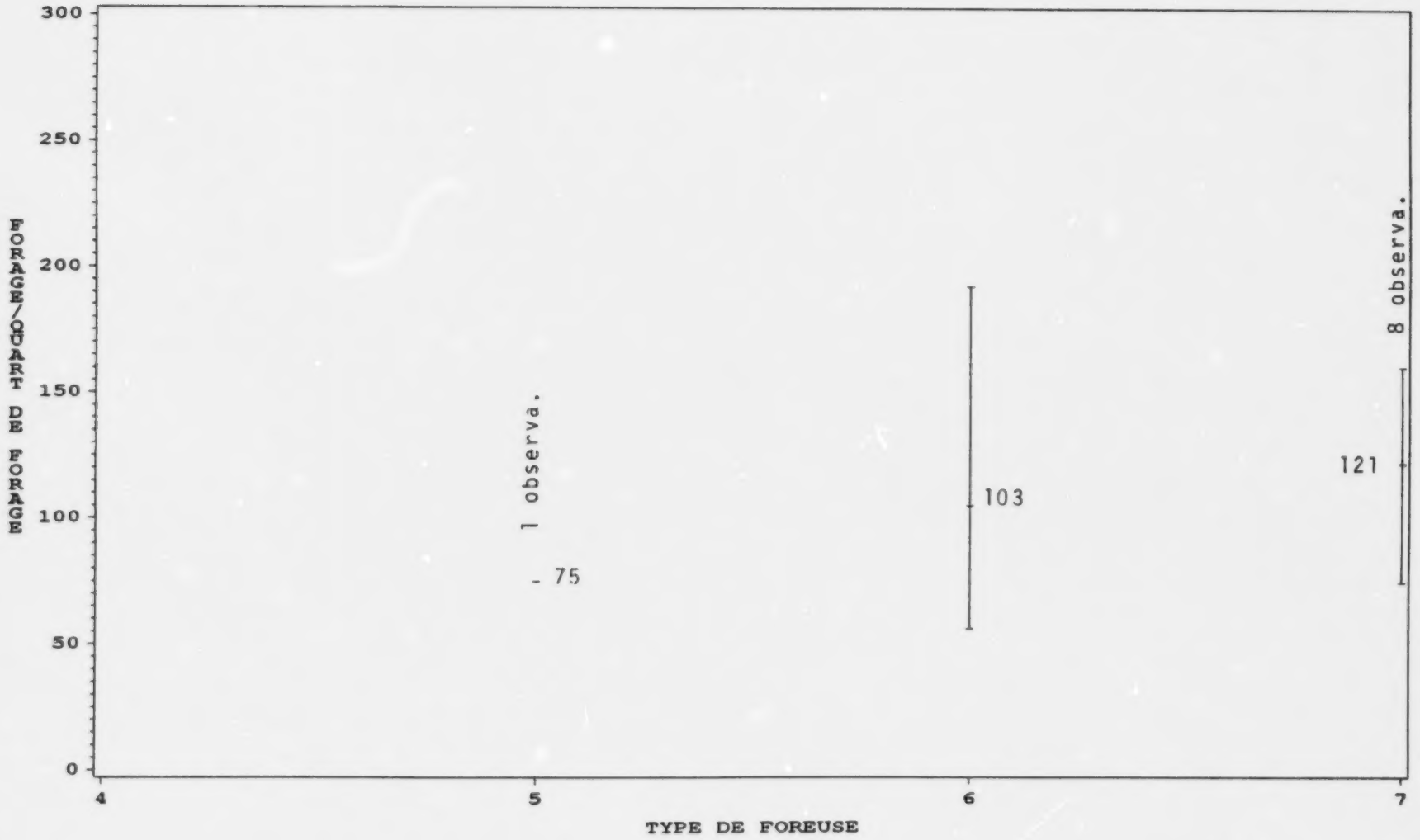
NOTE: FORAGE EN PIEDS

TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

FIGURE A.58

FORAGE/QUART DE FORAGE VS TYPE DE FOREUSE
ABATTAGE CHAMBRES ET PILIERS
MINE A

MAUVAIS TERRAIN

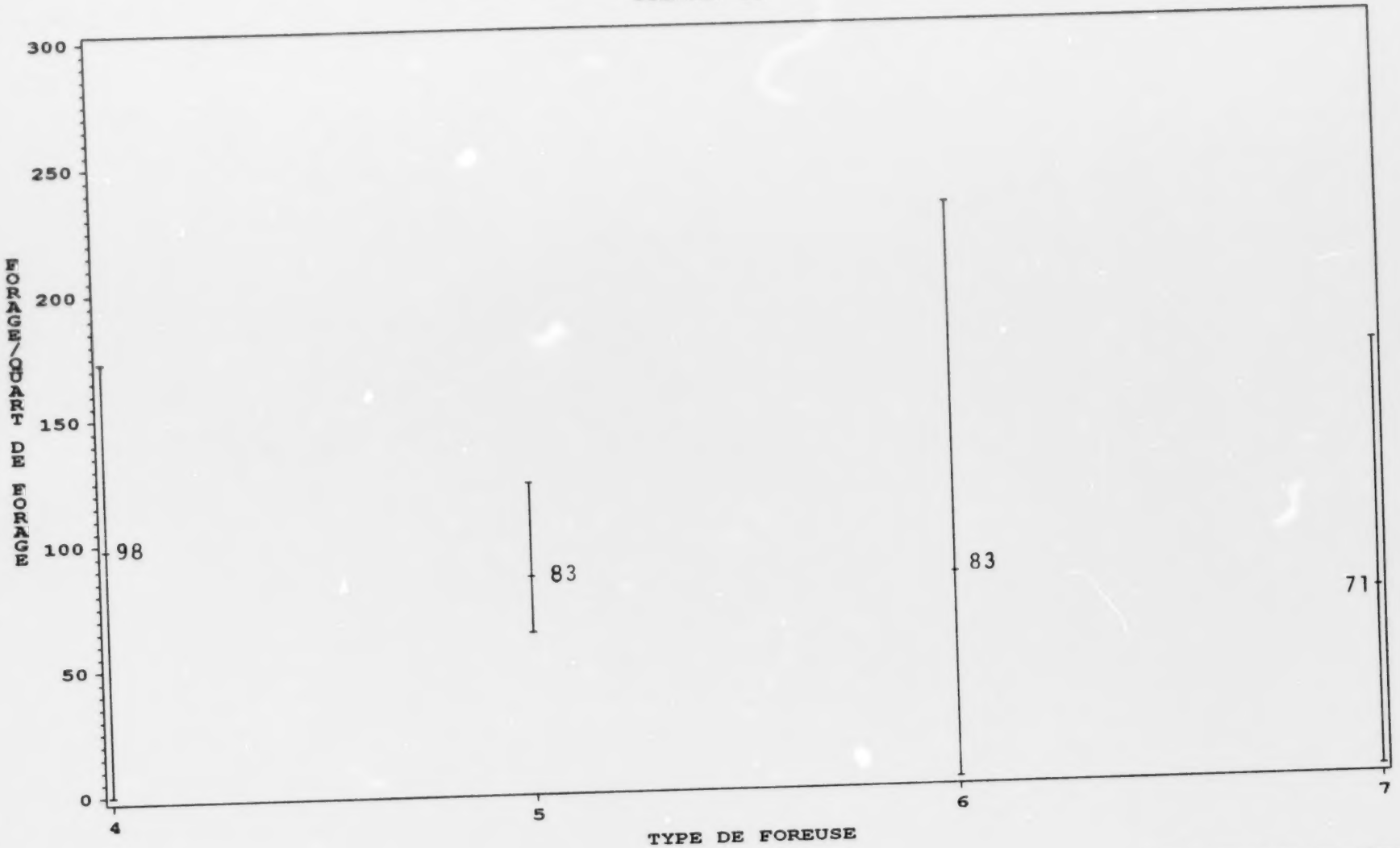


NOTE: FORAGE EN PIEDS

TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

FIGURE A.59

FORAGE/QUART DE FORAGE VS TYPE DE FOREUSE
ABATTAGE CHAMBRES REMBLAYEES
MINE A



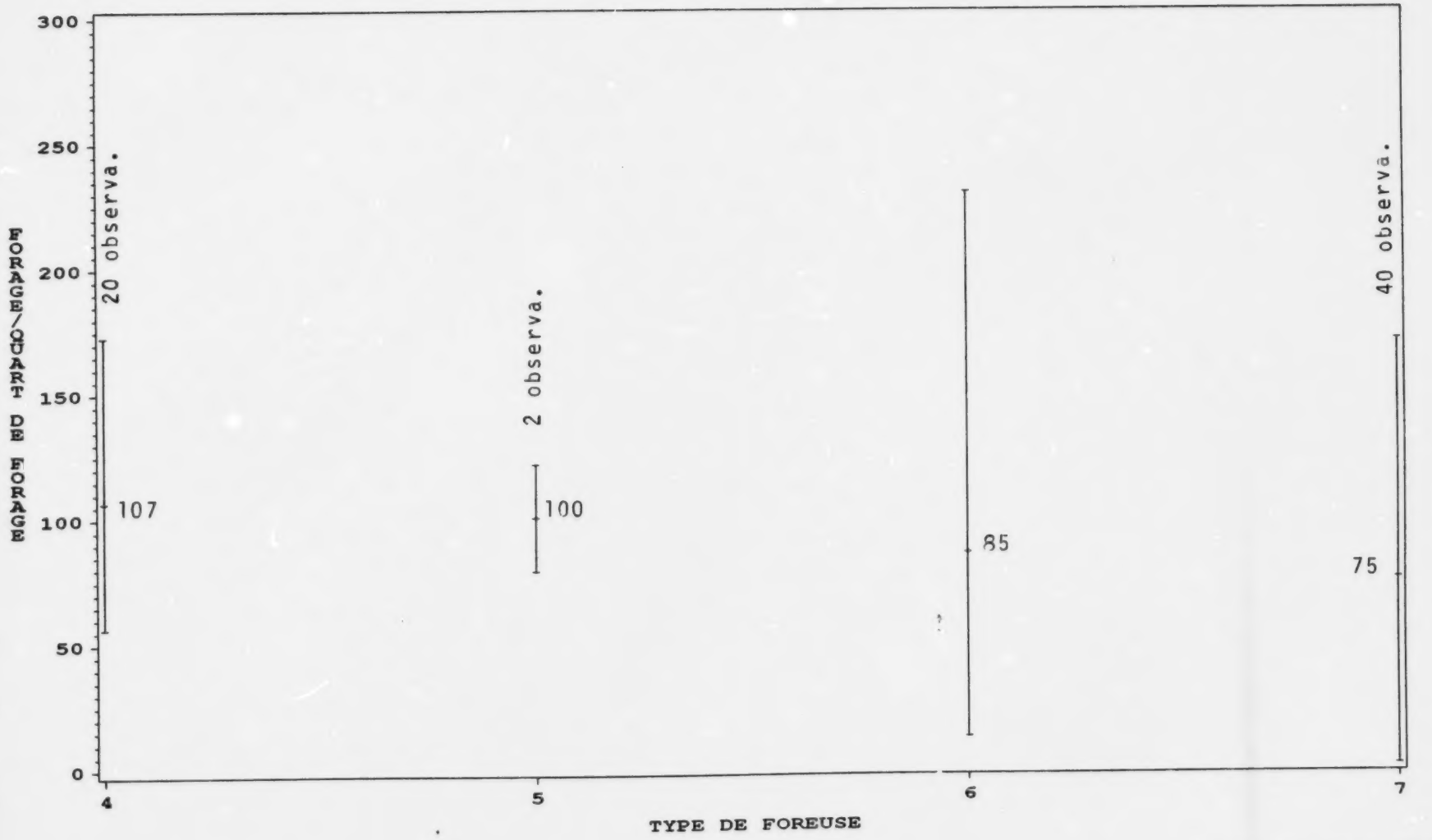
NOTE: FORAGE EN PIEDS

TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

FIGURE A.60

FORAGE/QUART DE FORAGE VS TYPE DE FOREUSE
ABATTAGE CHAMBRES REMBLAYEES
MINE A

BON TERRAIN



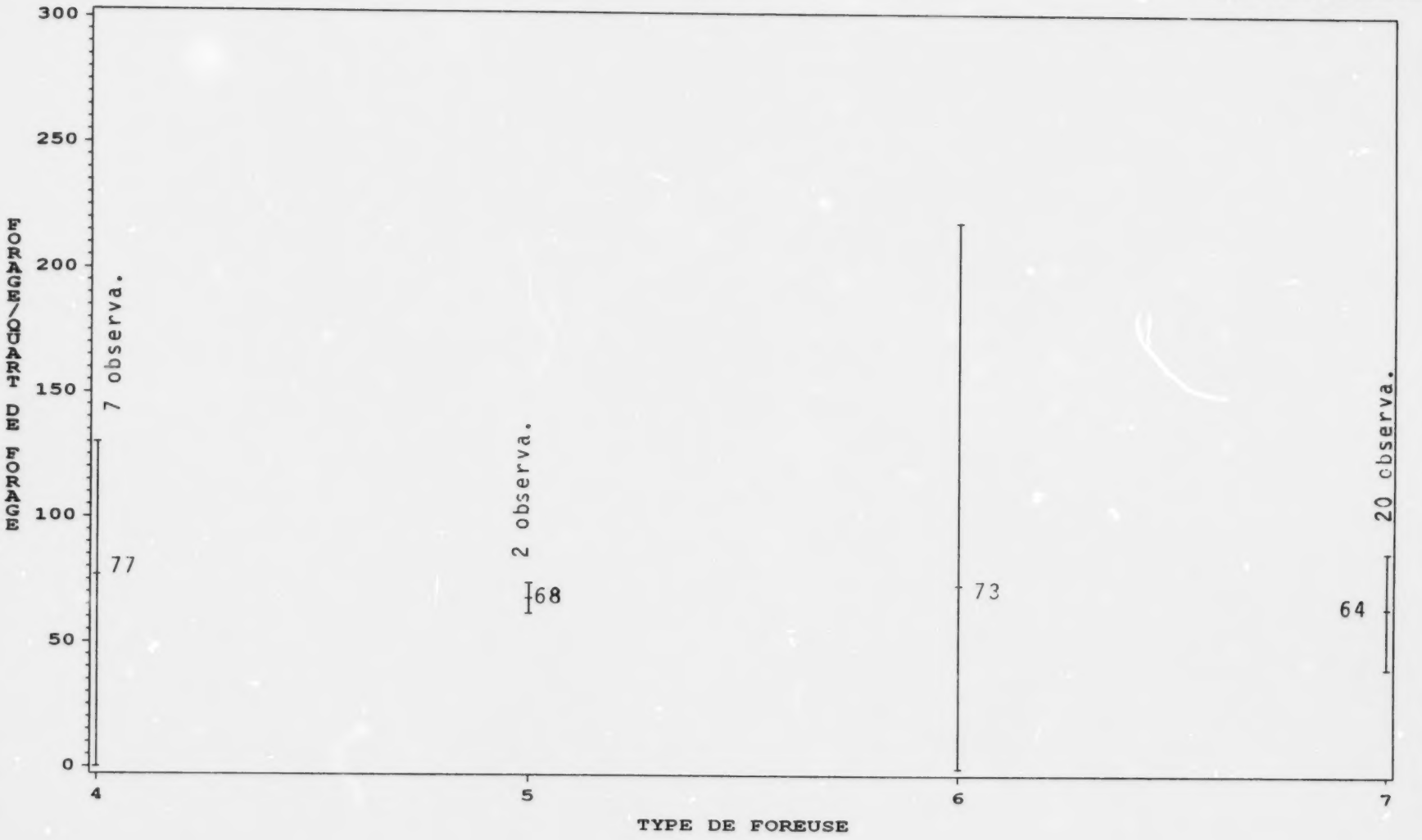
NOTE: FORAGE EN PIEDS

TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

FIGURE A.61

FORAGE/QUART DE FORAGE VS TYPE DE FOREUSE
ABATTAGE CHAMBRES REMBLAYEES
MINE A

MAUVAIS TERRAIN

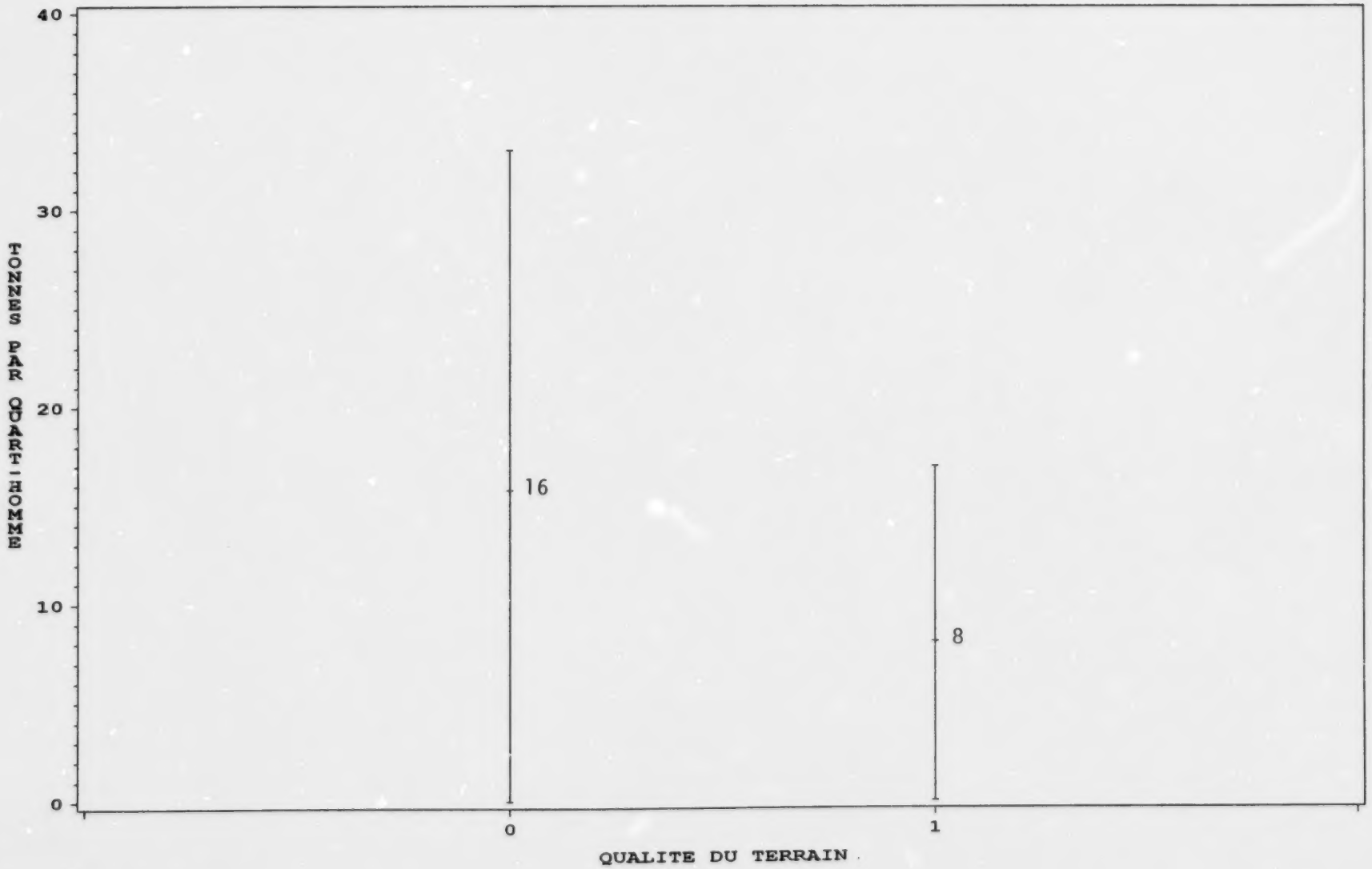


TYPE 4: FOREUSE SUR BEQUILLE GARDNER DENVER
TYPE 5: FOREUSE VERTICALE INGERSOLL-RAND
TYPE 6: FOREUSE VERTICALE SECAN
TYPE 7: FOREUSE SUR BEQUILLE INGERSOLL-RAND

NOTE: FORAGE EN PIEDS

FIGURE A.62

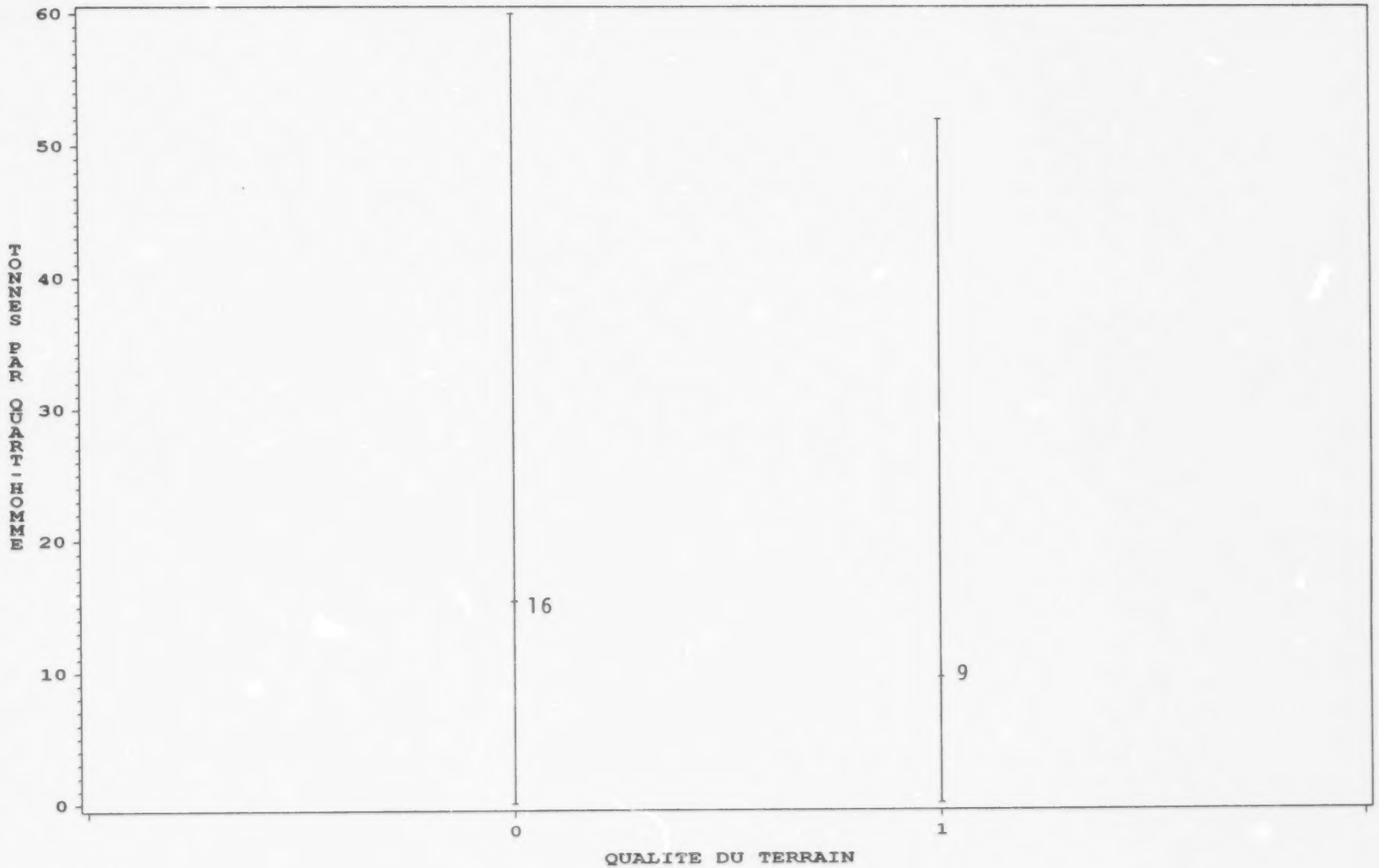
TONNES PAR QUART-HOMME VS QUALITE DU TERRAIN
ABATTAGE CHAMBRES ET PILIERS
MINE A



BON TERRAIN=0
MAUVAIS TERRAIN=1

FIGURE A.63

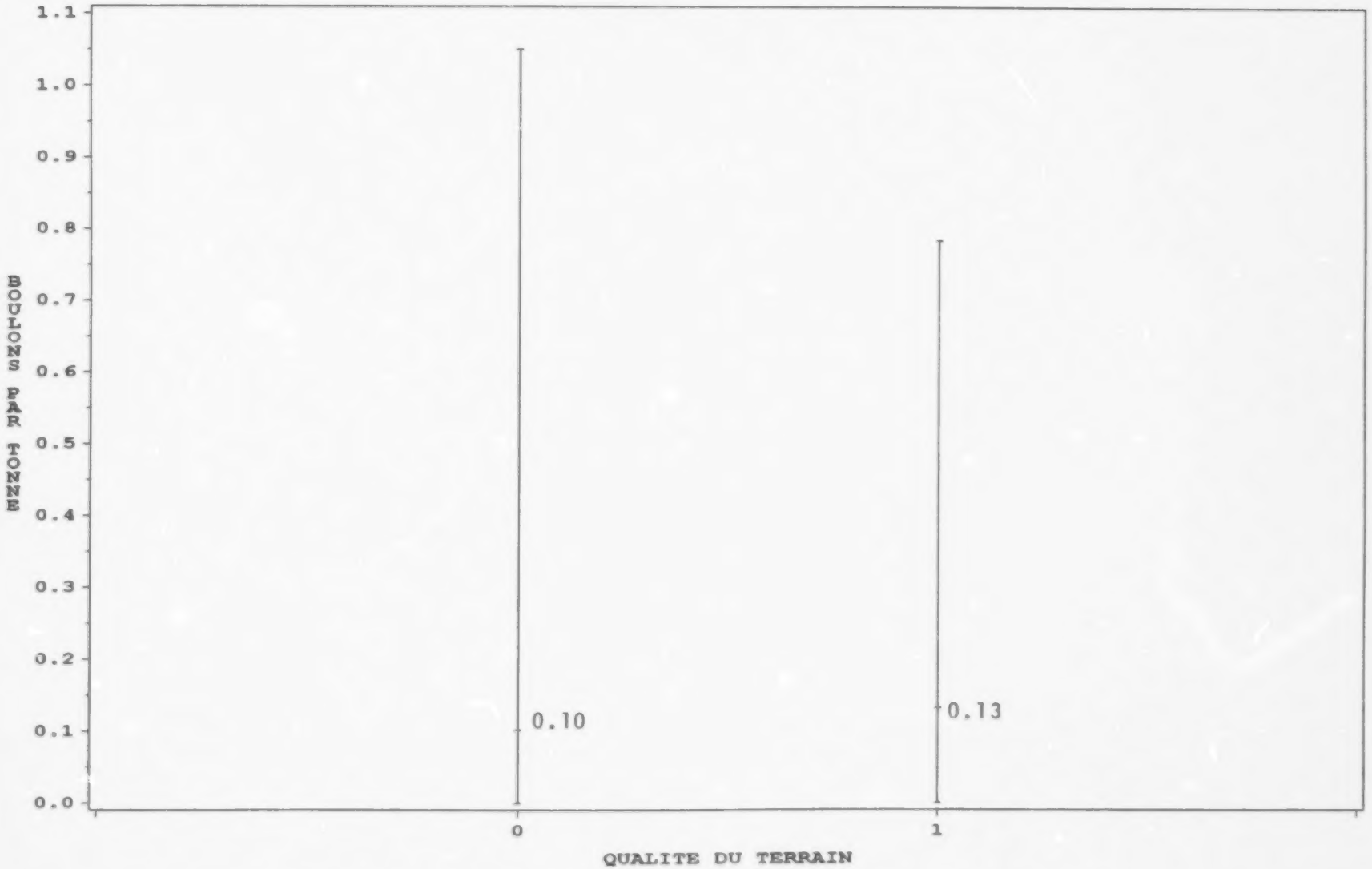
TONNES PAR QUART-HOMME VS QUALITE DU TERRAIN
ABATTAGE CHAMBRES REMBLAYEES
MINE A



BON TERRAIN=0
MAUVAIS TERRAIN=1

FIGURE A.64

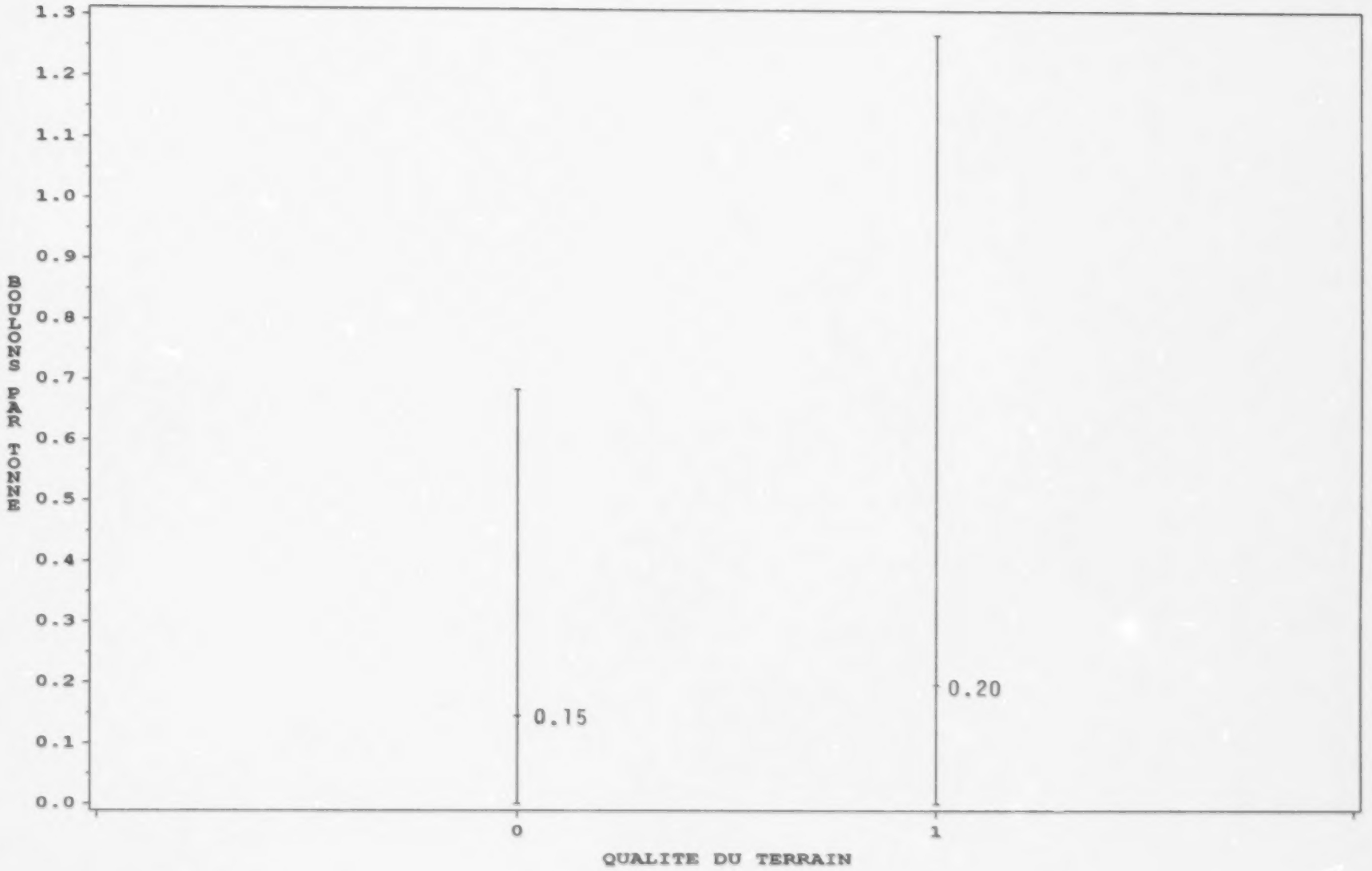
BOULONS PAR TONNE VS QUALITE DU TERRAIN
ABATTAGE CHAMBRES ET PILIERS
MINE A



BON TERRAIN=0
MAUVAIS TERRAIN=1

FIGURE A.65

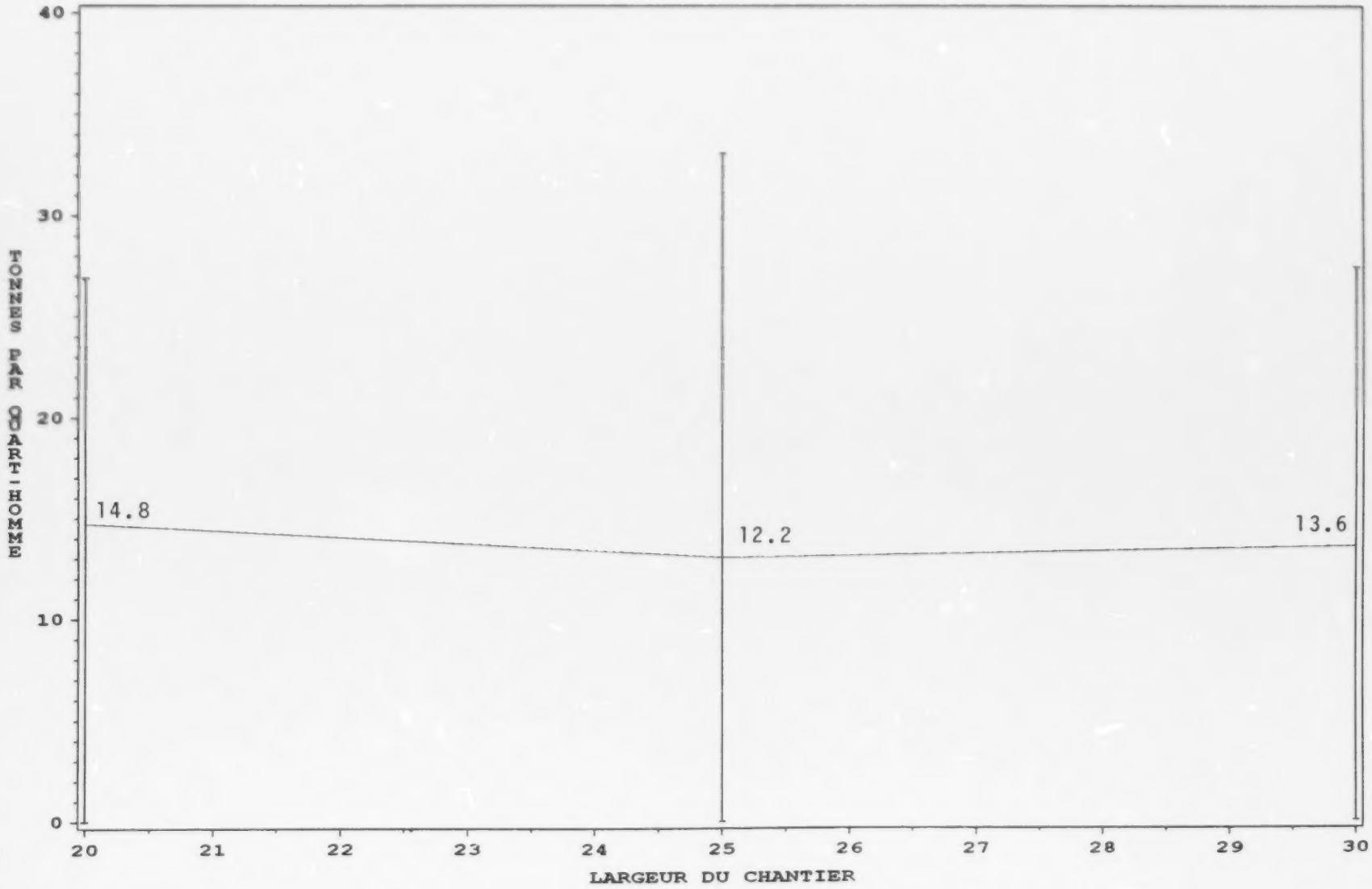
BOULONS PAR TONNE VS QUALITE DU TERRAIN
ABATTAGE CHAMBRES REMBLAYEES
MINE A



BON TERRAIN=0
MAUVAIS TERRAIN=1

FIGURE A.66

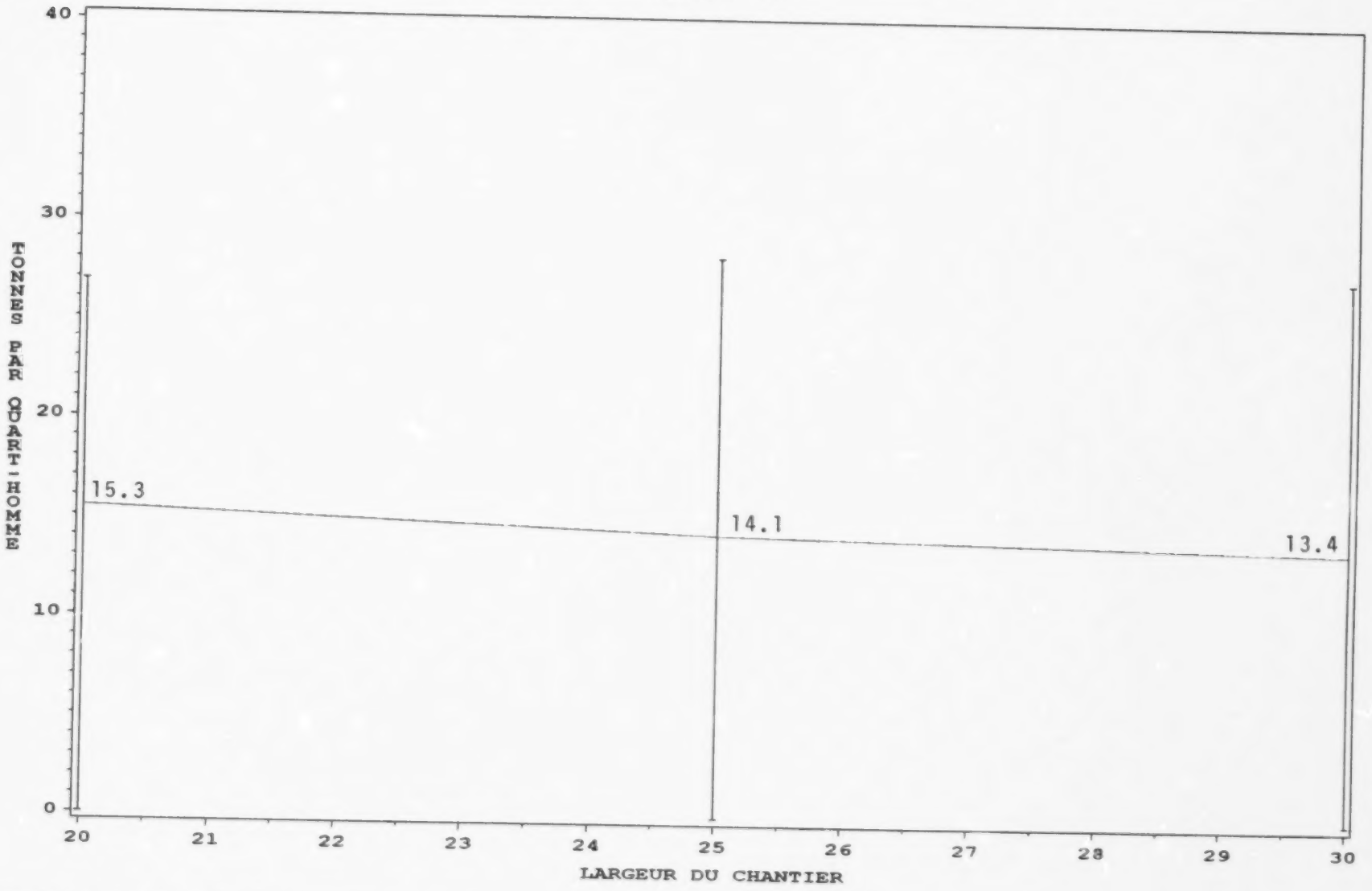
TONNES PAR QUART-HOMME VS LARGEUR DU CHANTIER
ABATTAGE CHAMBRES ET PILIERS
MINE A



NOTE: LARGEUR EN PIEDS

FIGURE A.67

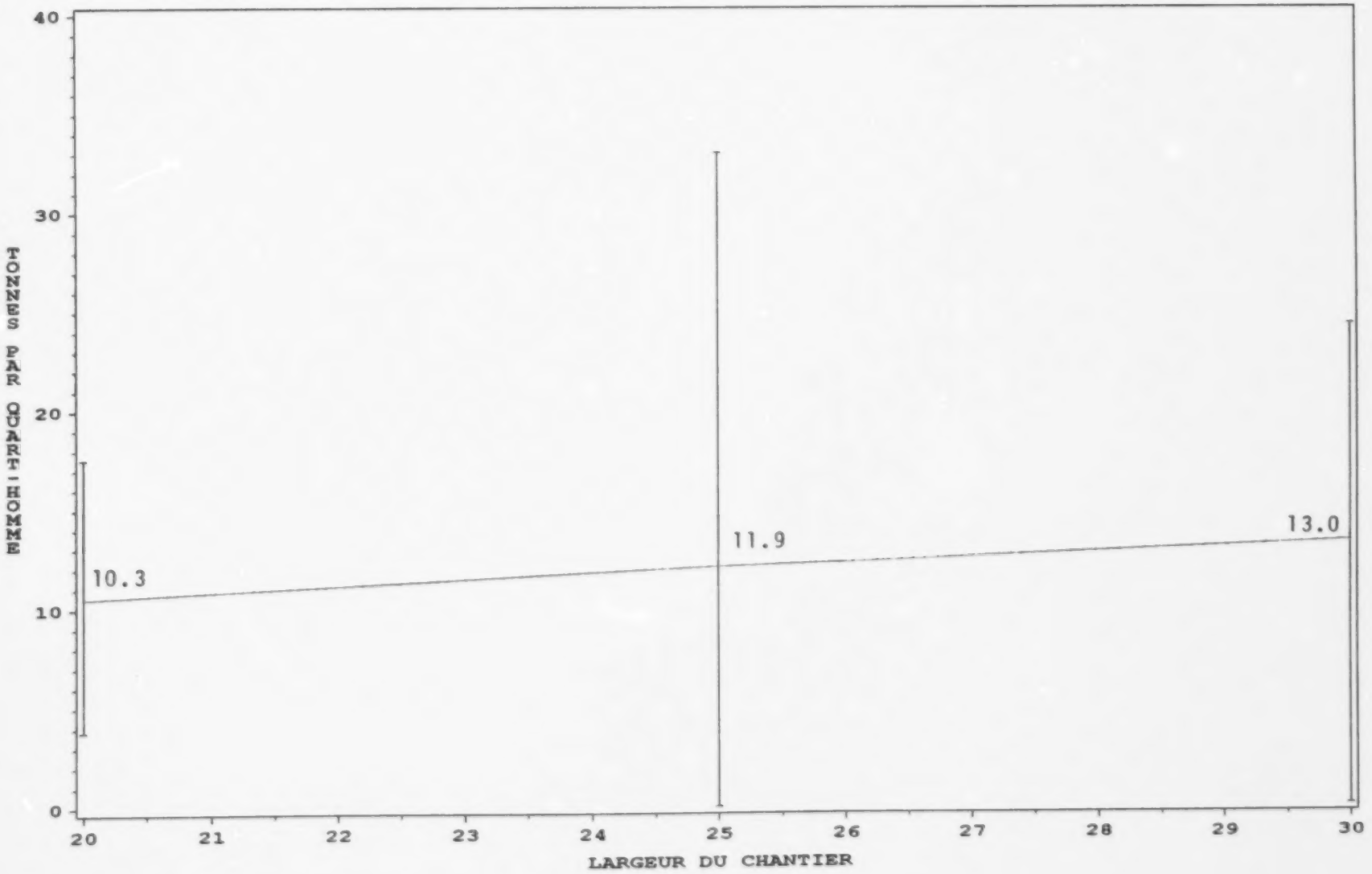
TONNES PAR QUART-HOMME VS LARGEUR DU CHANTIER
ABATTAGE CHAMBRES ET PILIERS
MINE A



NOTE: LARGEUR EN PIEDS
NOTE: ACCES PAR LE PUITS DE SURFACE

FIGURE A.68

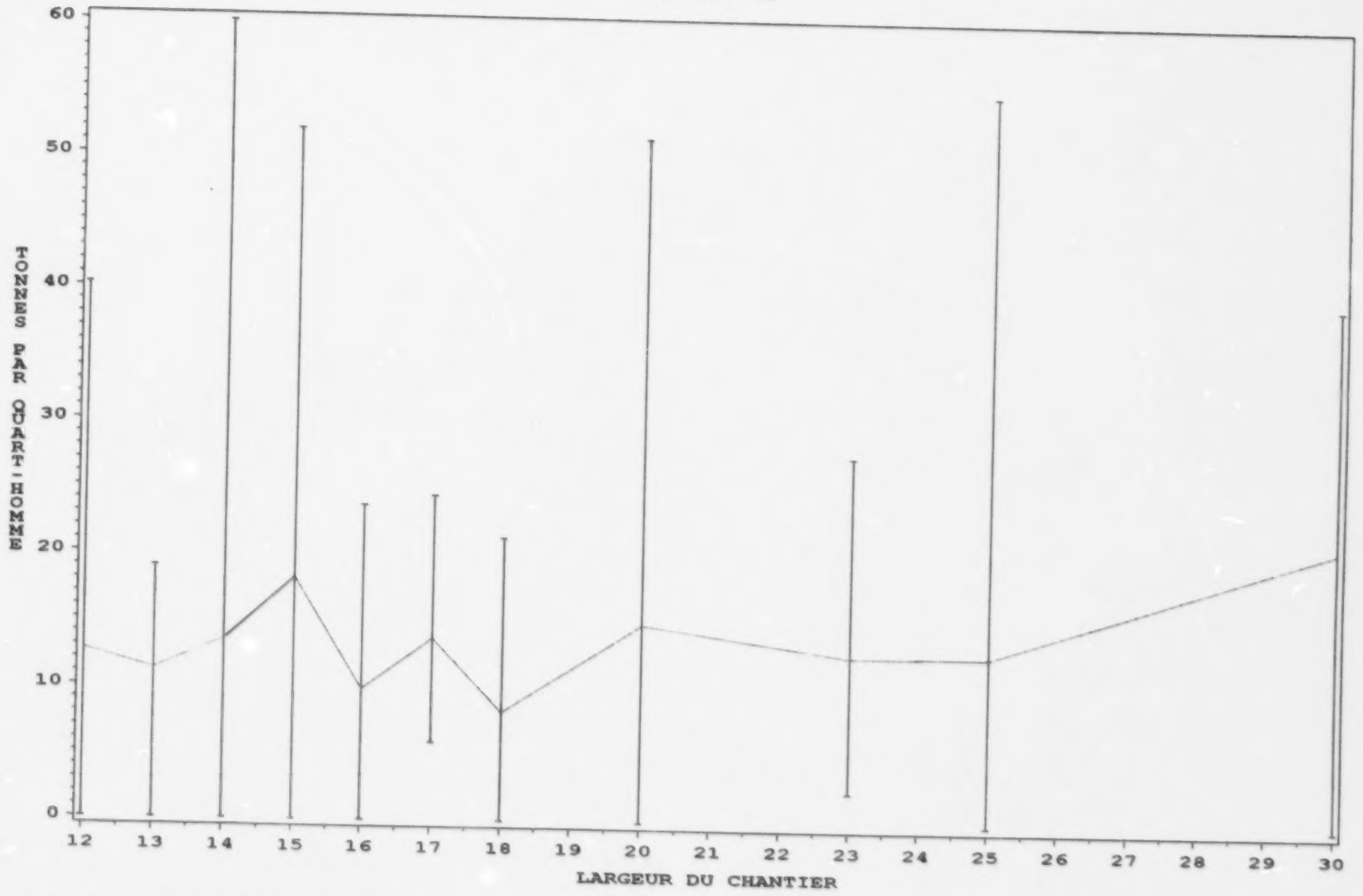
TONNES PAR QUART-HOMME VS LARGEUR DU CHANTIER
ABATTAGE CHAMBRES ET PILIERS
MINE A



NOTE: LARGEUR EN PIEDS
NOTE: ACCES PAR LE PUITS INTERNE

FIGURE A.69

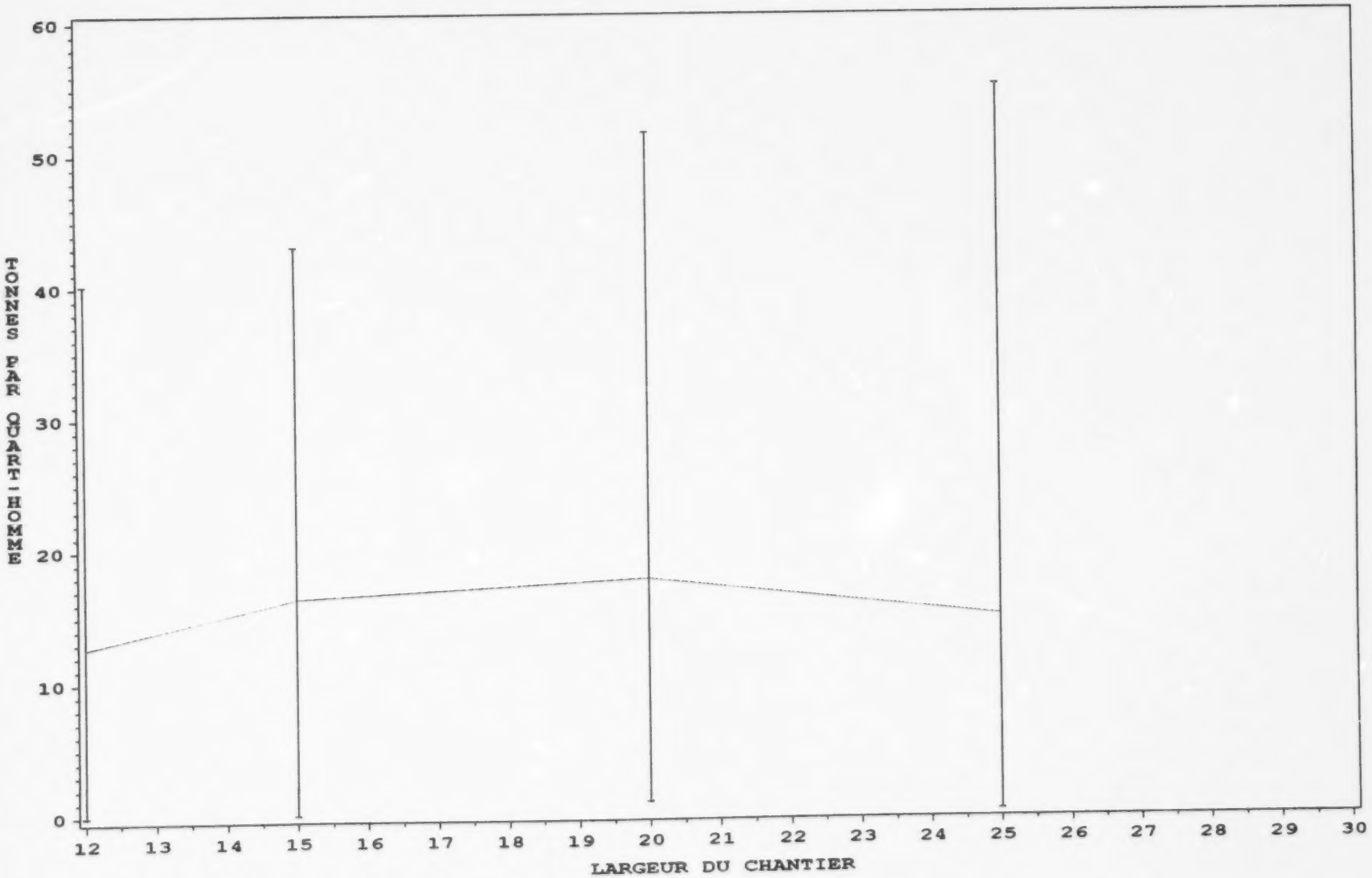
TONNES PAR QUART-HOMME VS LARGEUR DU CHANTIER
ABATTAGE CHAMBRES REMBLAYEES
MINE A



NOTE: LARGEUR EN PIEDS

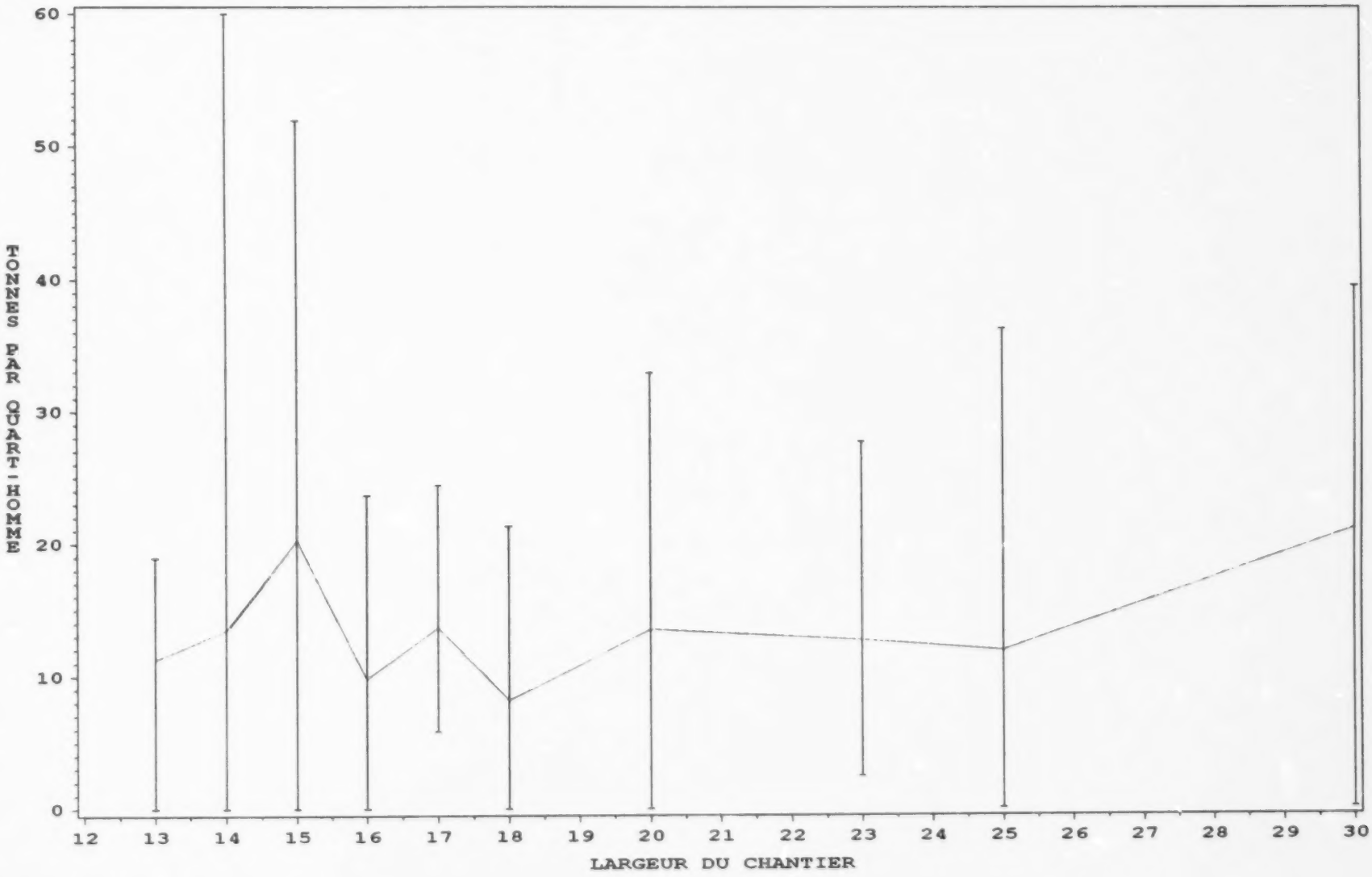
FIGURE A.70

TONNES PAR QUART-HOMME VS LARGEUR DU CHANTIER
ABATTAGE CHAMBRES REMBLAYEES
MINE A



NOTE: LARGEUR EN PIEDS
NOTE: ACCES PAR LE PUITS DE SURFACE

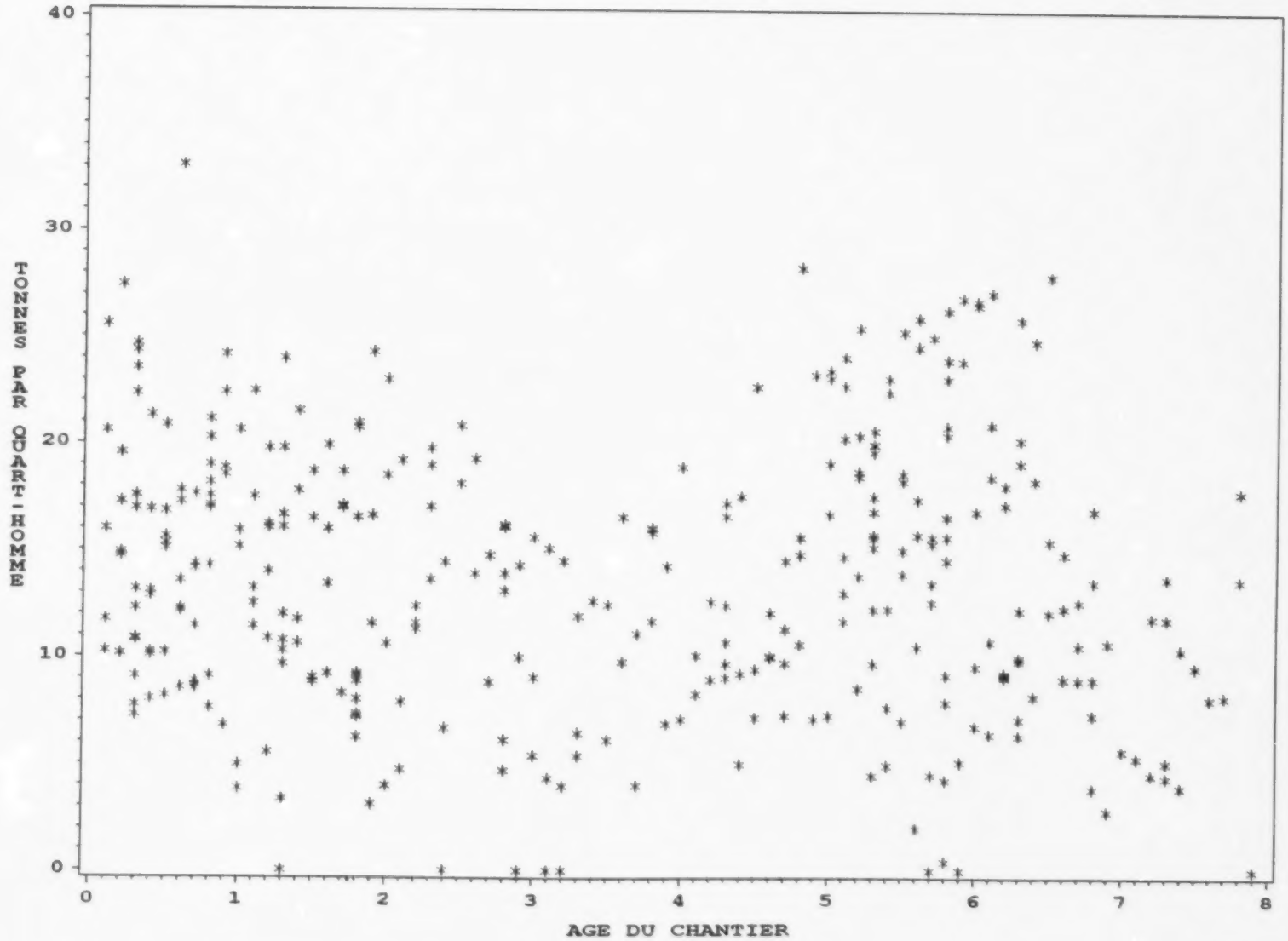
FIGURE A.71



NOTE: LARGEUR EN PIEDS
NOTE: ACCES PAR LE PUITS INTERNE

FIGURE A.72

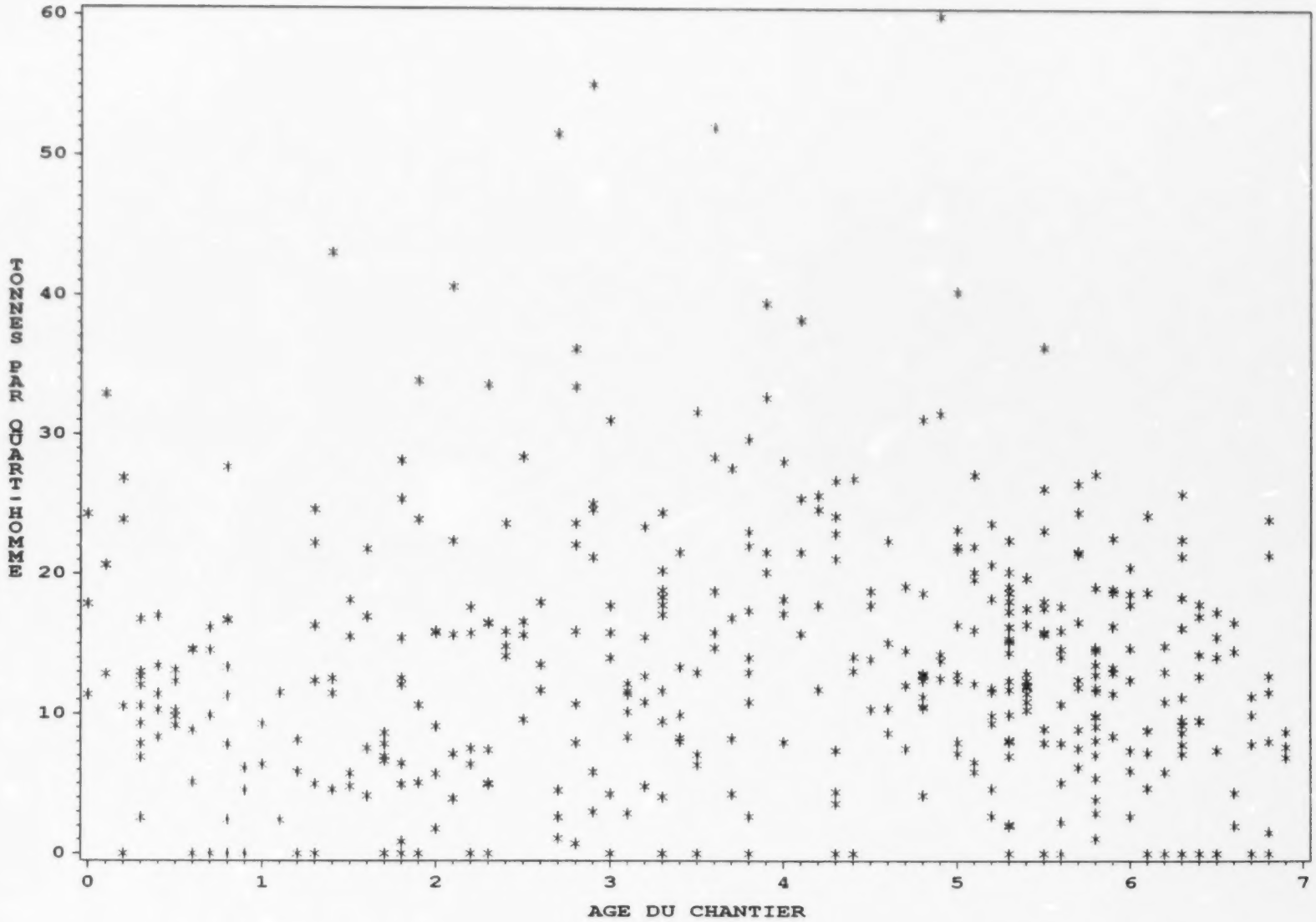
TONNES PAR QUART-HOMME VS AGE DU CHANTIER
ABATTAGE CHAMBRES ET PILIERS
MINE A



NOTE: AGE EN ANNEES

FIGURE A.73

TONNES PAR QUART-HOMME VS AGE DU CHANTIER
ABATTAGE CHAMBRES REMBLAYEES
MINE A



NOTE: AGE EN ANNEES

FIGURE A.74

TONNES PAR QUART-HOMME VS PRIME AU RENDEMENT
ABATTAGE CHAMBRES ET PILIERS
MINE A

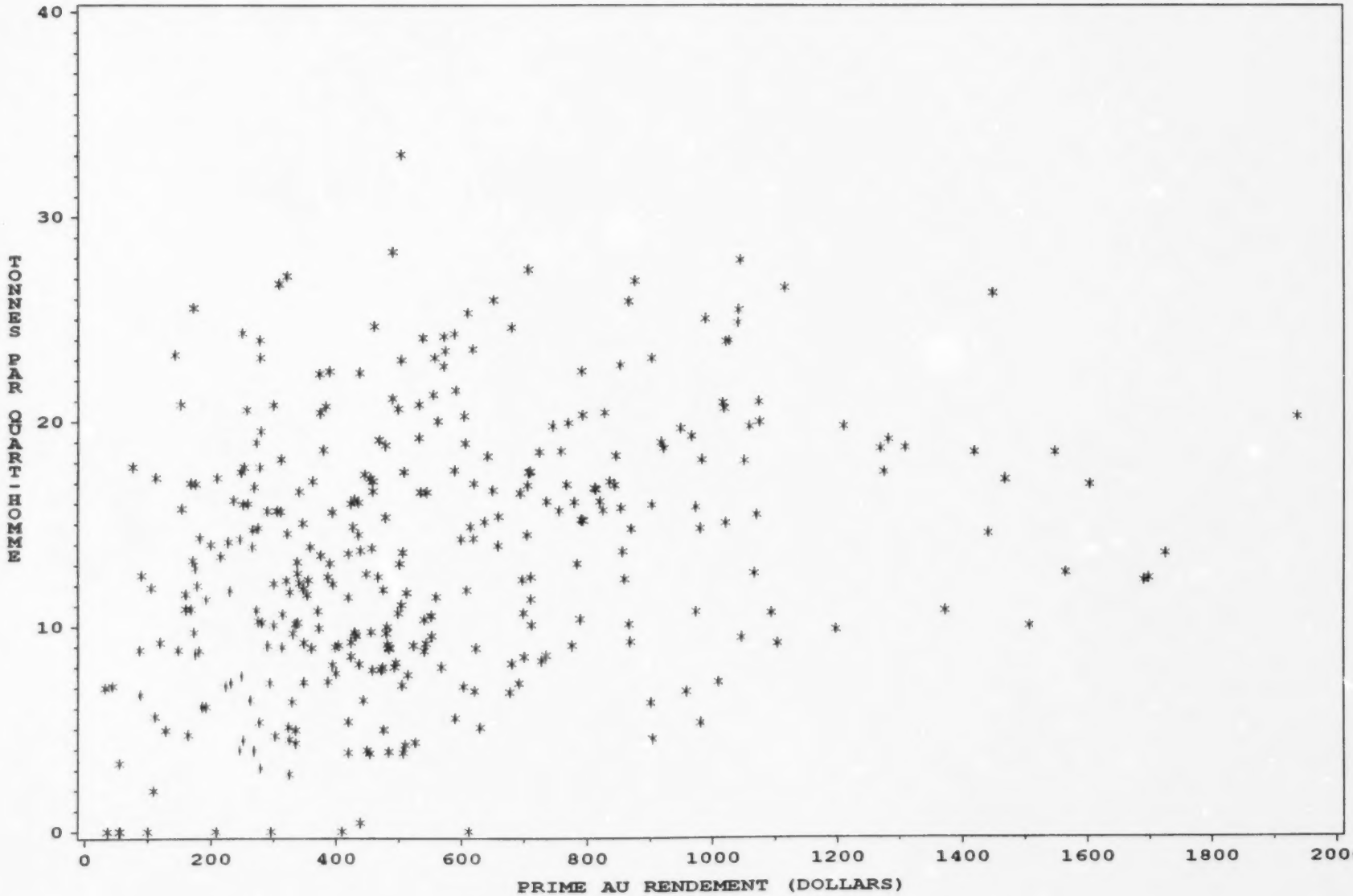


FIGURE A.75

TONNES PAR QUART-HOMME VS PRIME AU RENDEMENT
ABATTAGE CHAMBRES REMBLAYEES
MINE A

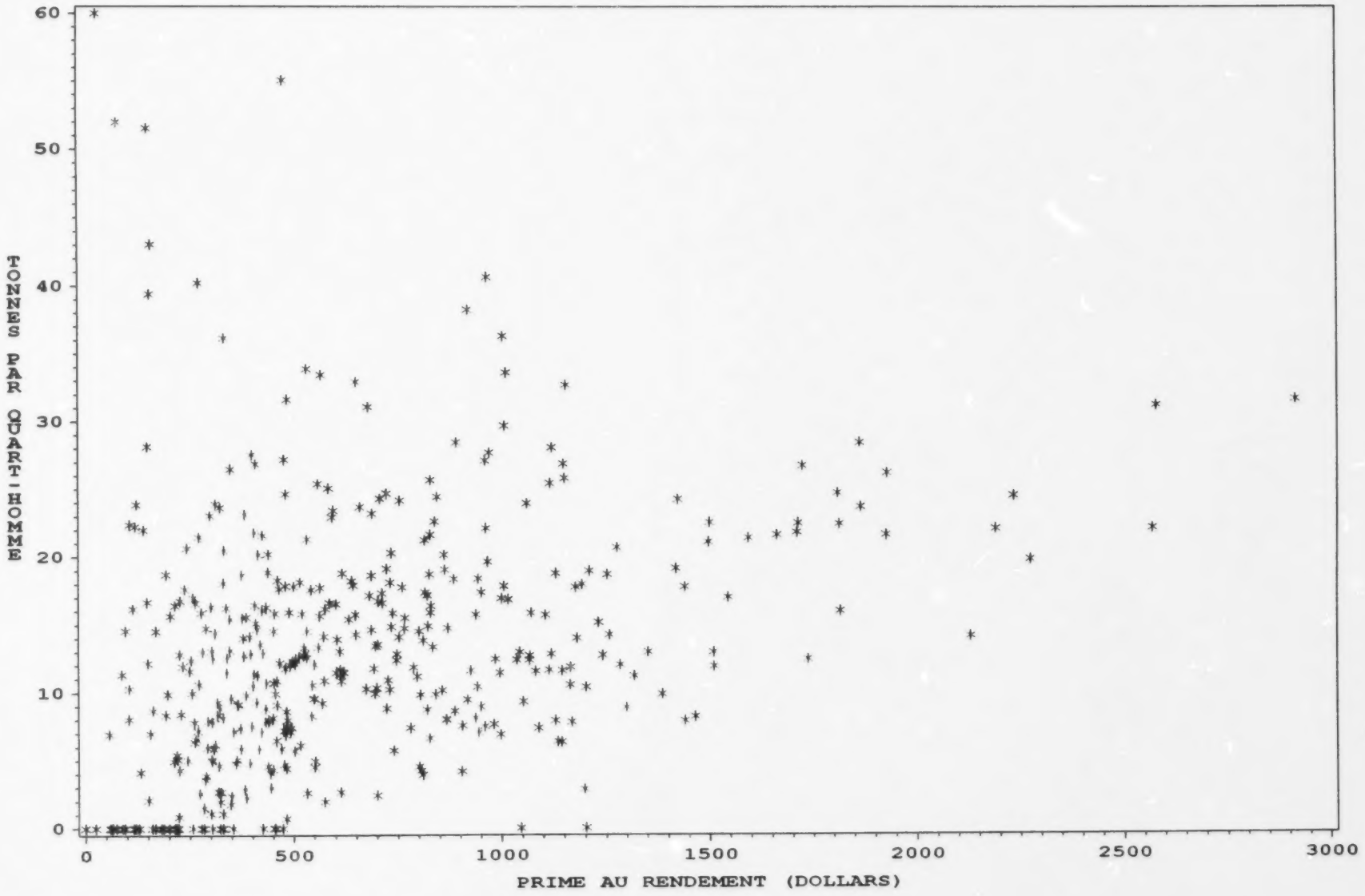


FIGURE A.76

BOULONS INSTALLES VS PRIME AU RENDEMENT
ABATTAGE CHAMBRES ET PILIERS
MINE A

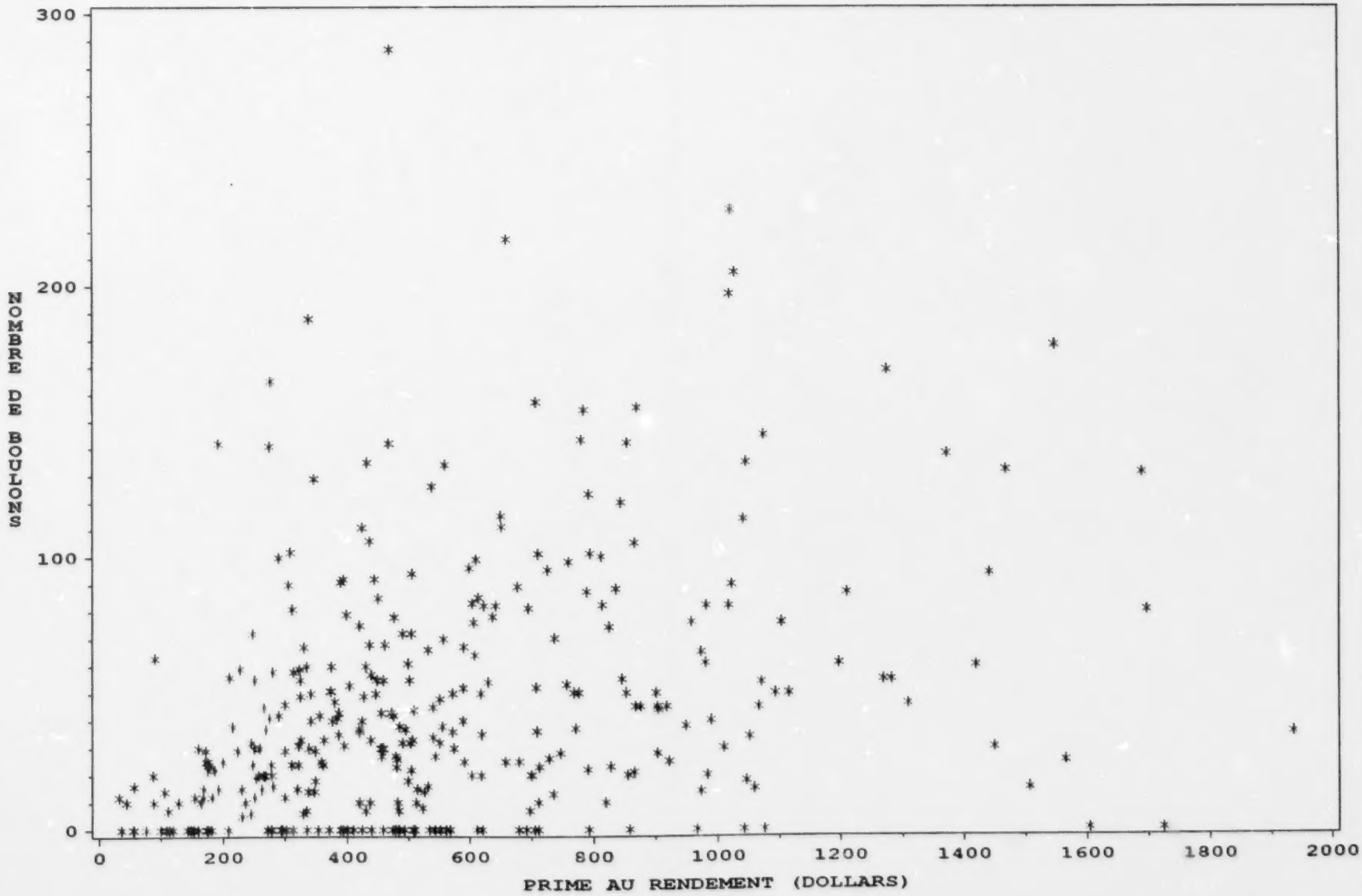


FIGURE A.77

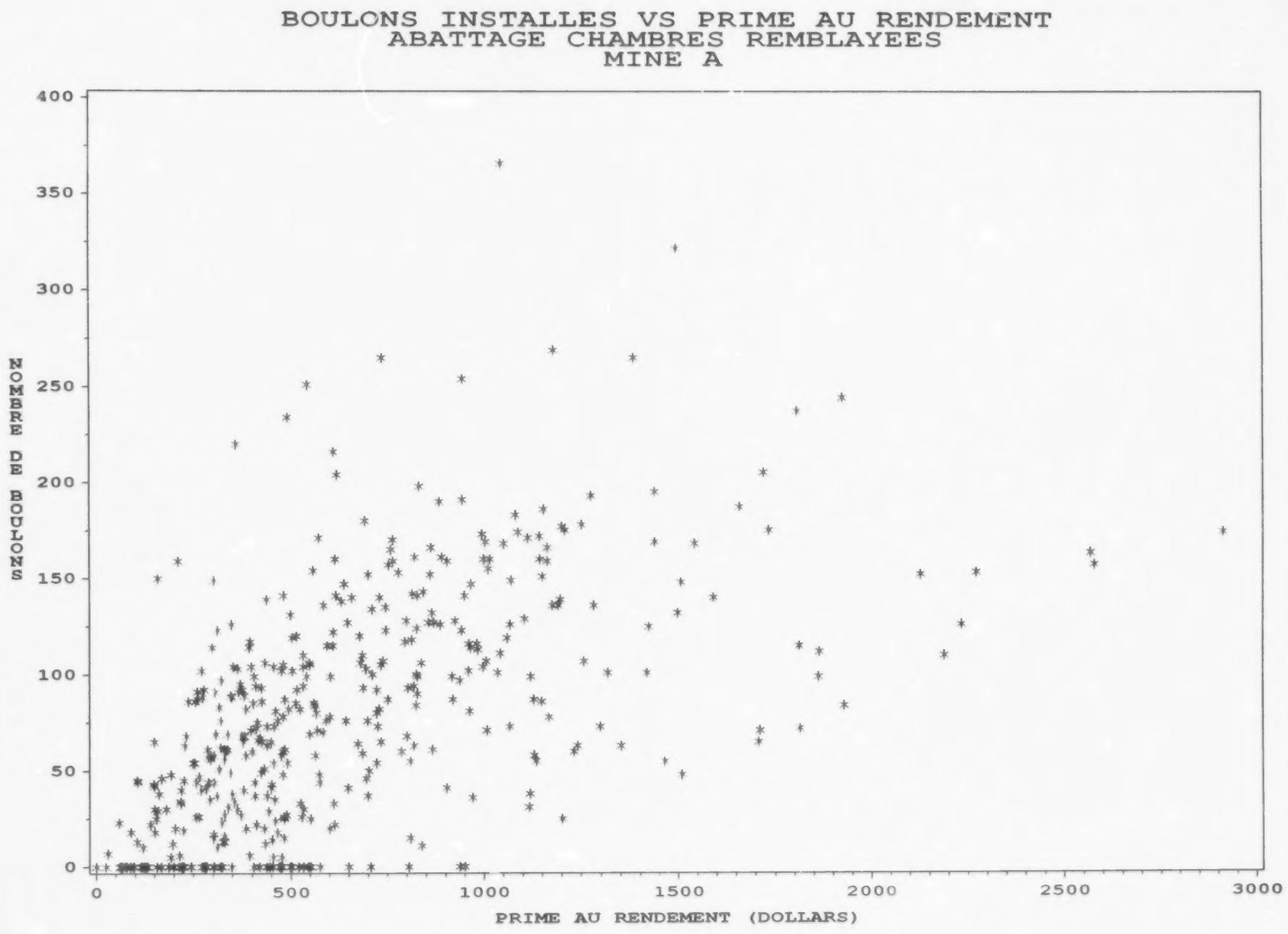

BOULONS INSTALLES VS PRIME AU RENDEMENT
ABATTAGE CHAMBRES REMBLAYEES
MINE A
NOMBRE DE BOULONS
400
350
300
250
200
150
100
50
0
0
500
1000
1500
2000
2500
3000
PRIME AU RENDEMENT (DOLLARS)

FIGURE A.78

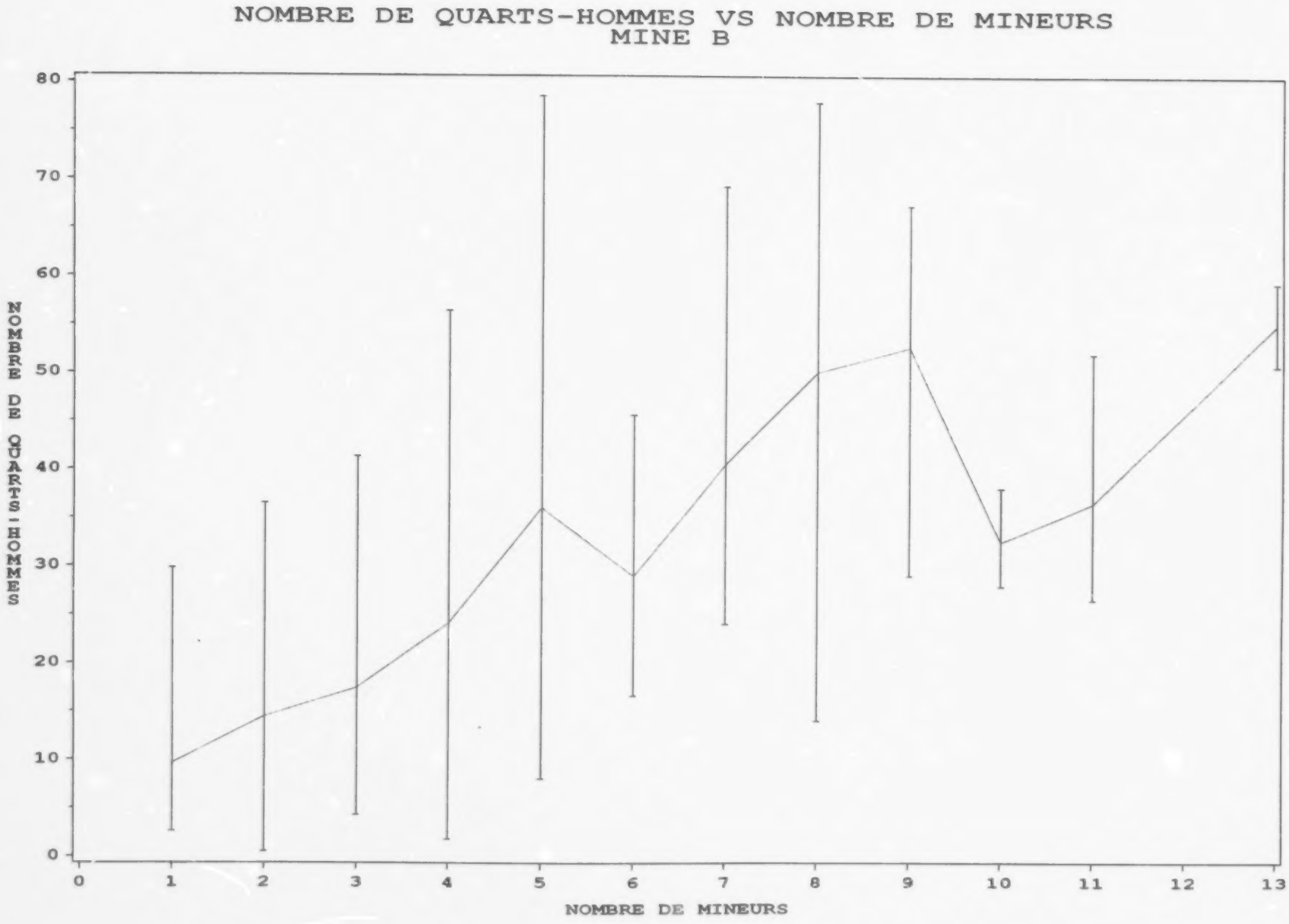
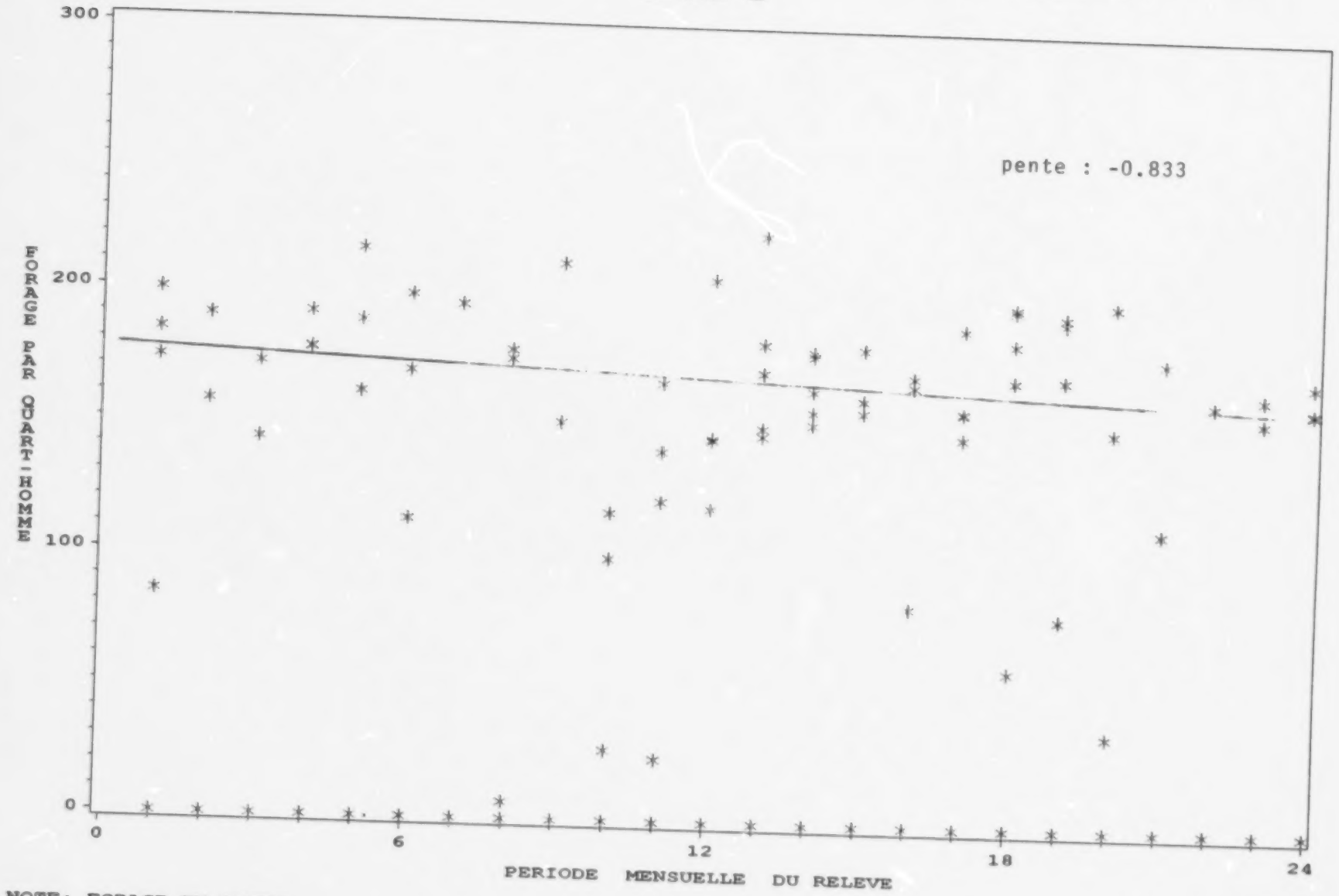
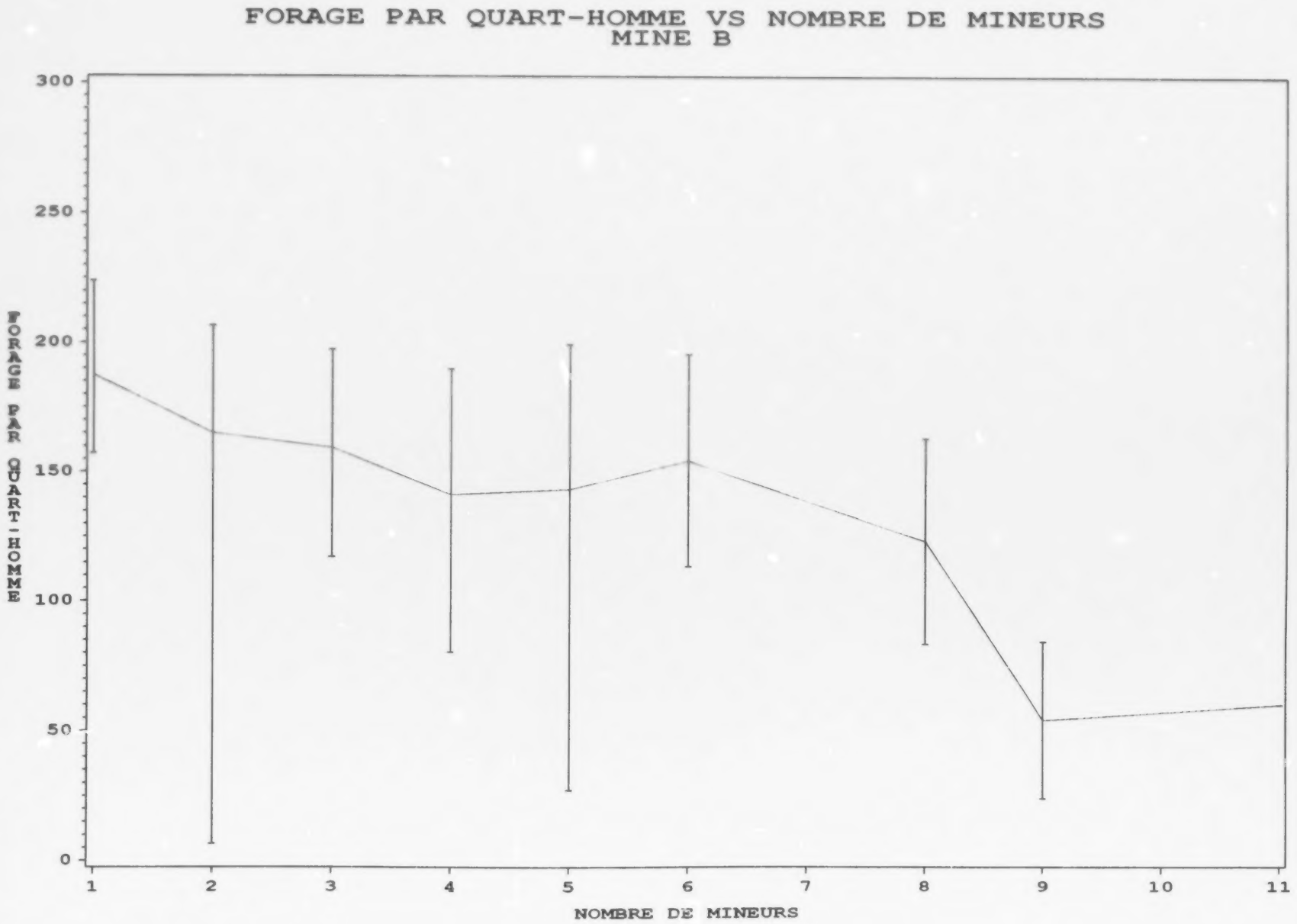

NOMBRE DE QUARTS-HOMMES VS NOMBRE DE MINEURS
MINE B
NOMBRE DE QUARTS-HOMMES
0
10
20
30
40
50
60
70
80
0
1
2
3
4
5
6
7
8
9
10
11
12
13
NOMBRE DE MINEURS

FIGURE B.1



NOTE: FORAGE EN PIEDS

FIGURE B.2



NOTE: FORAGE EN PIEDS

FIGURE B.3

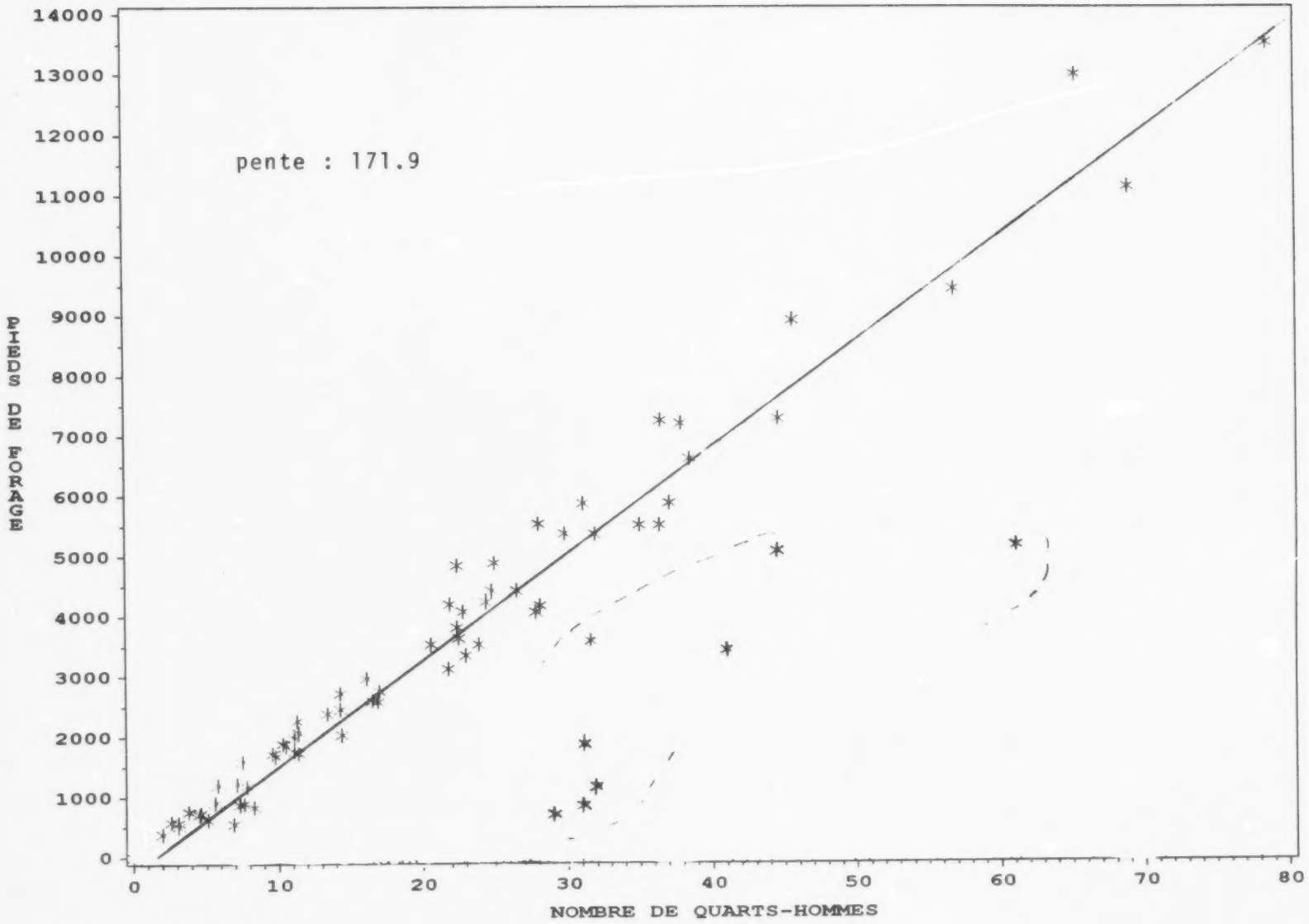
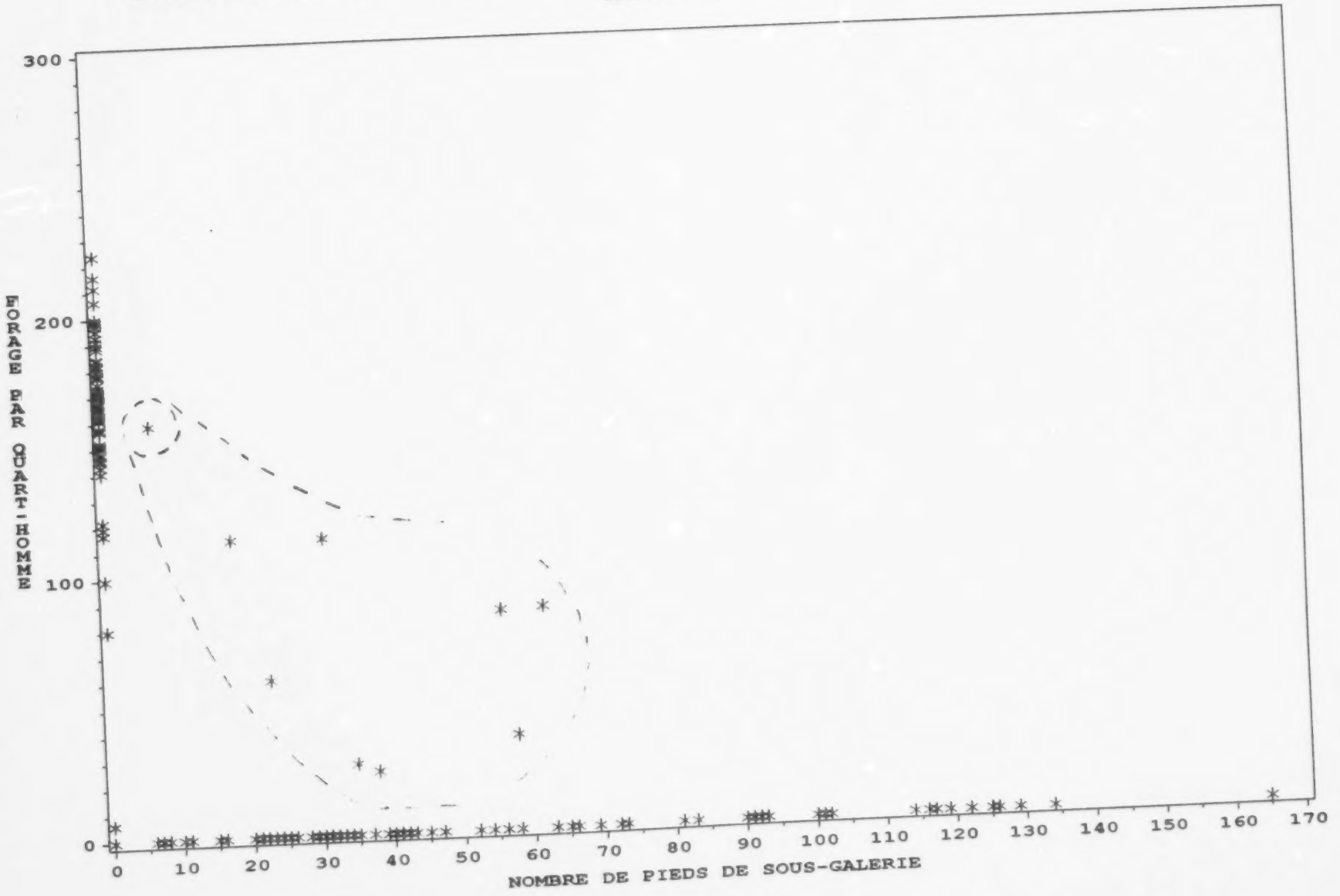

NOMBRE DE PIEDS DE FORAGE VS NOMBRE DE QUARTS-HOMMES
MINE B
pente : 171.9
PIEDS DE FORAGE
NOMBRE DE QUARTS-HOMMES
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0
10
20
30
40
50
60
70
80

FIGURE B.4

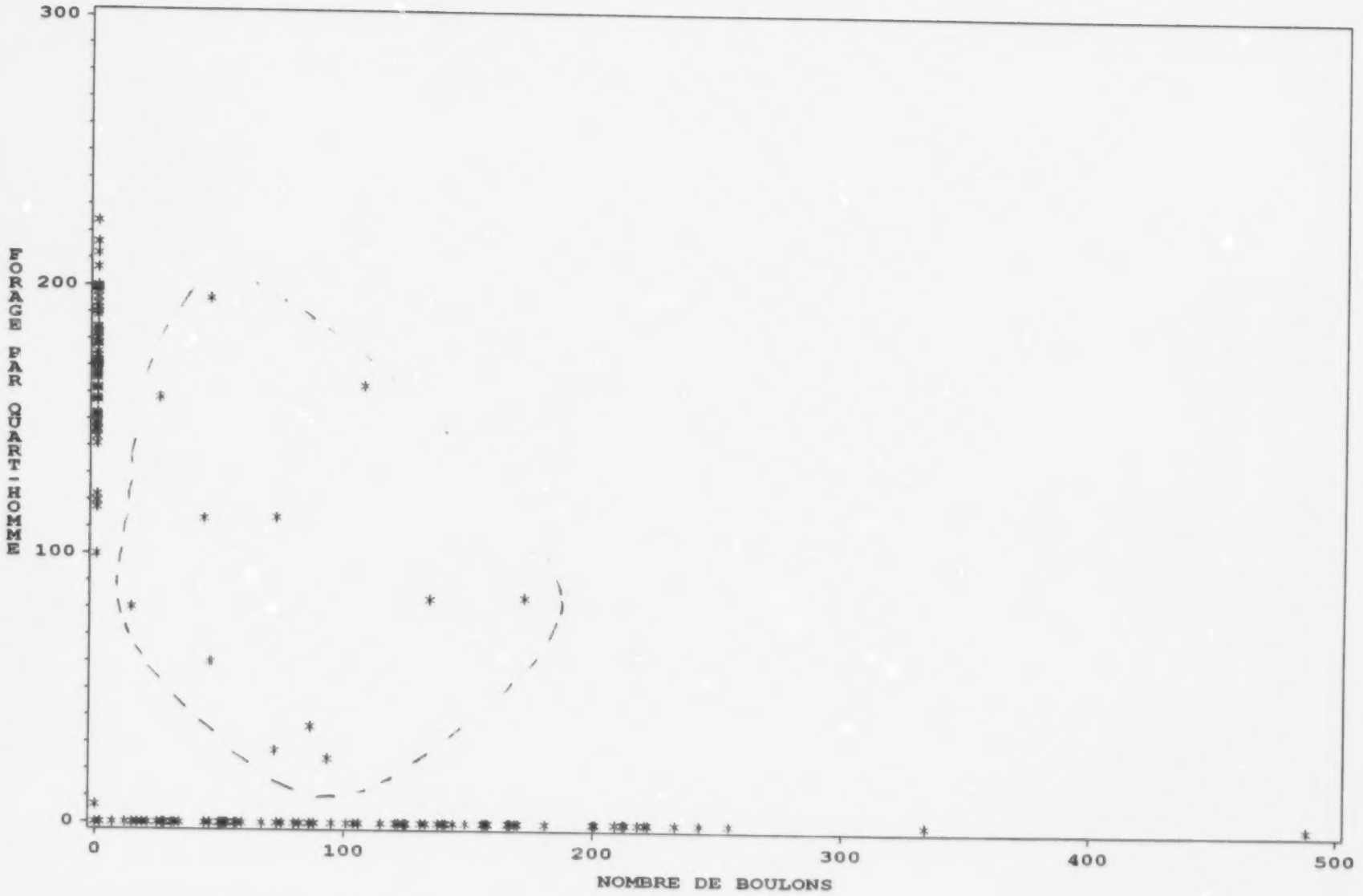
FORAGE/QUART-HOMME VS NOMBRE DE PIEDS DE SOUS-GALERIE
MINE B



NOTE: FORAGE EN PIEDS

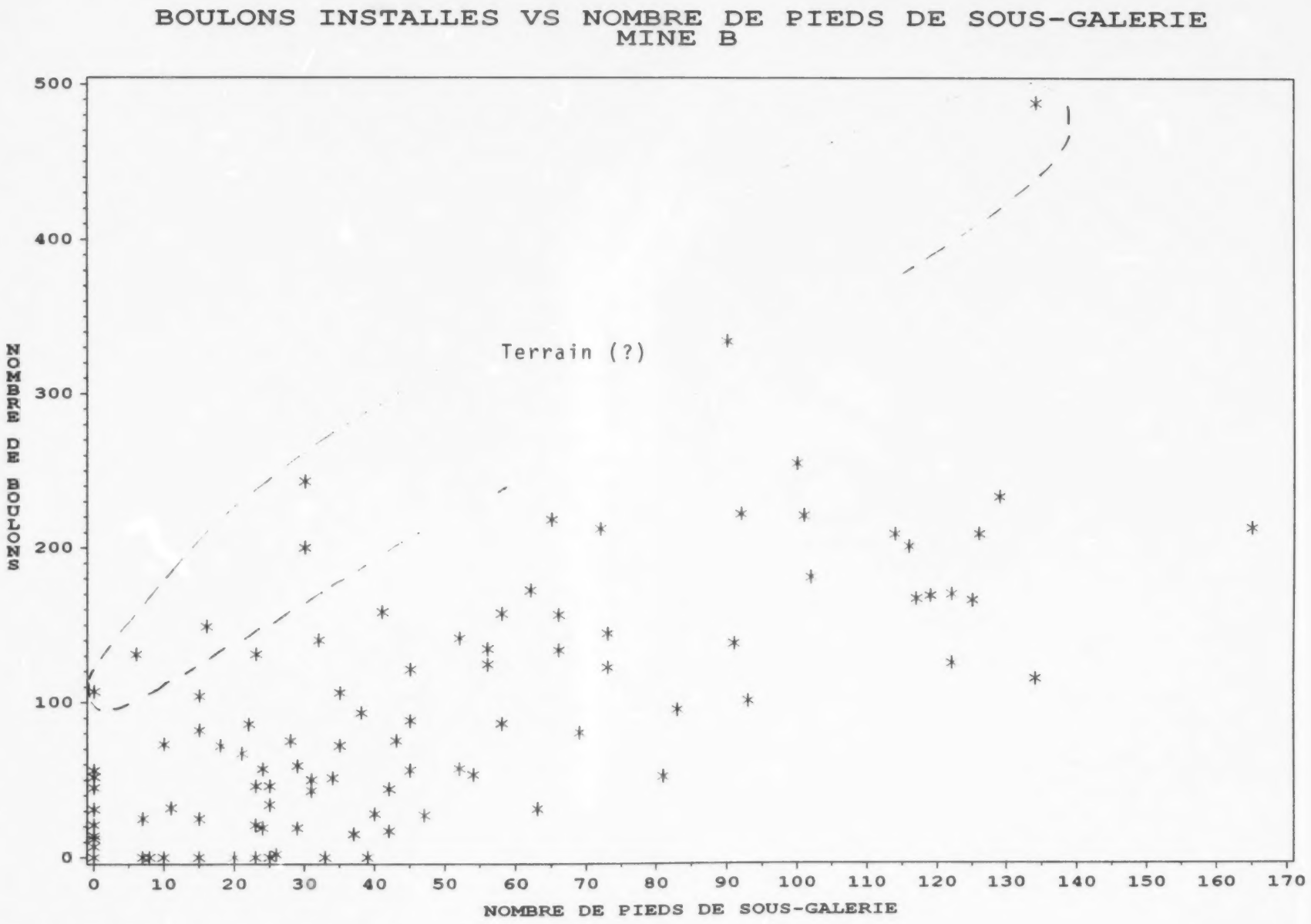
FIGURE B.5

FORAGE PAR QUART-HOMME VS NOMBRE DE BOULONS
MINE B



NOTE: FORAGE EN PIEDS
NOTE: BOULONS DE 5 ET 7 PIEDS

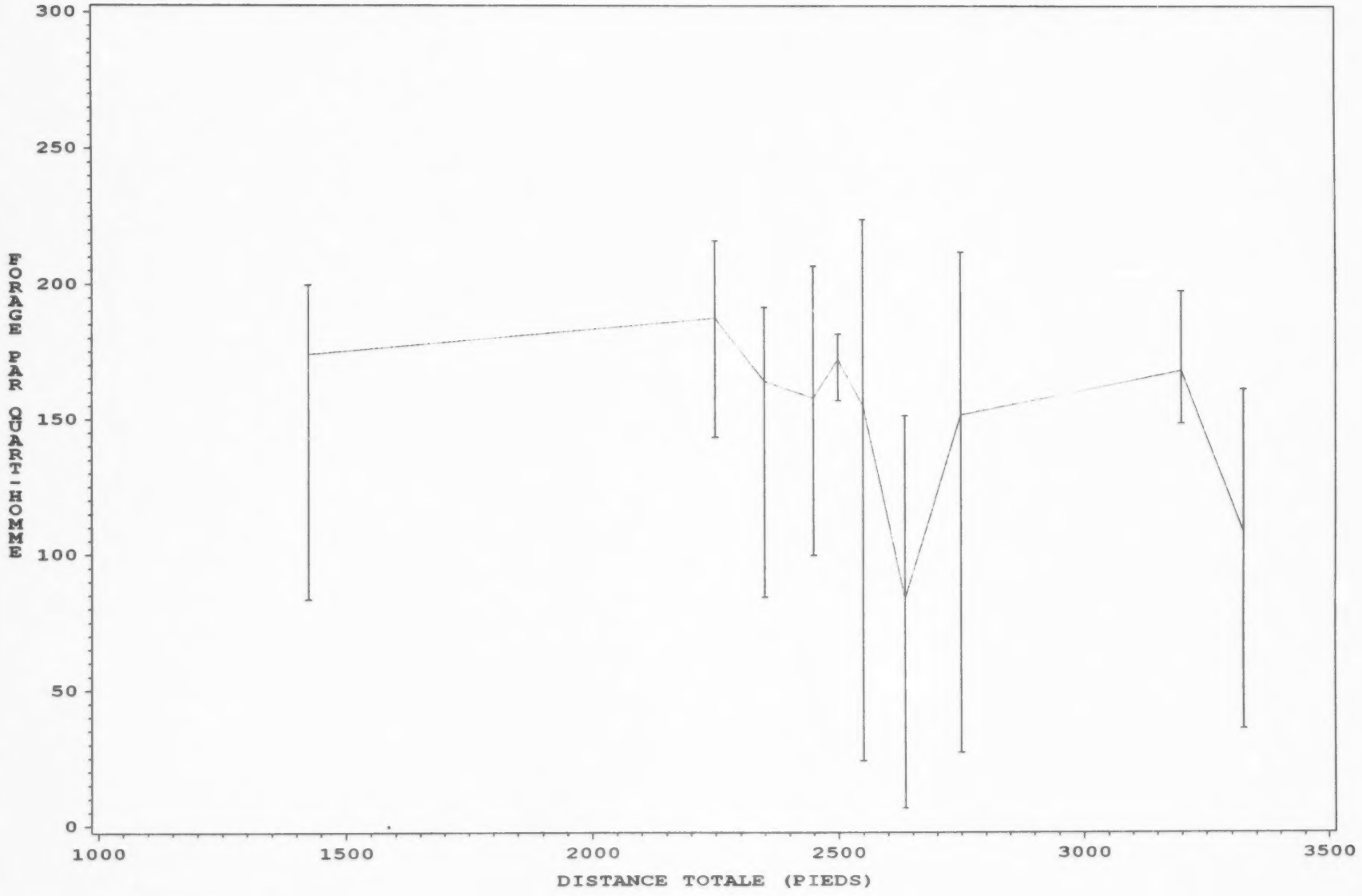
FIGURE B.6



NOTE: BOULONS DE 5 ET 7 PIEDS

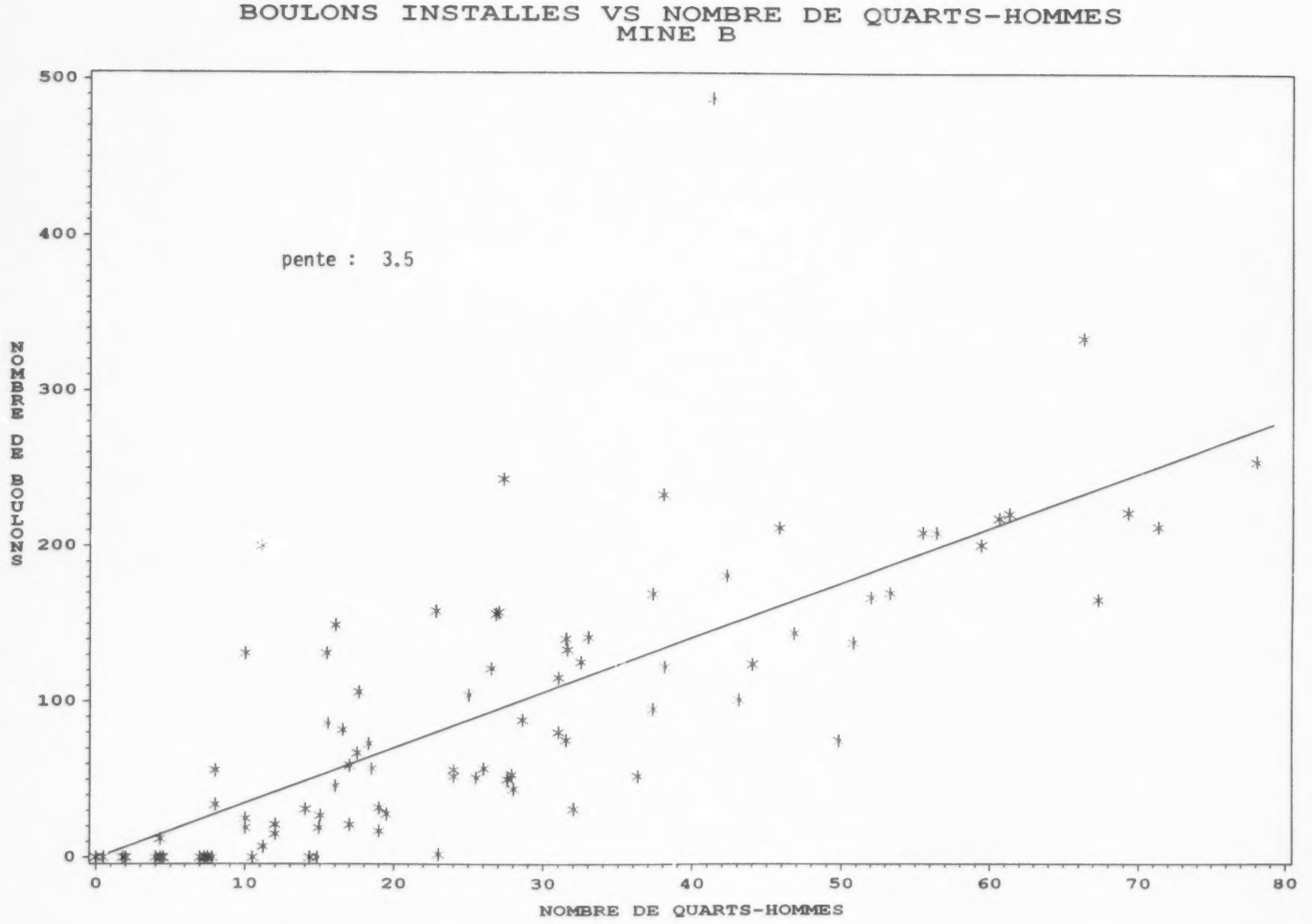
FIGURE B.7

FORAGE PAR QUART-HOMME VS DISTANCE TOTALE DU CHANTIER MINE B



NOTE: FORAGE EN PIEDS

FIGURE B.8



NOTE: BOULONS DE 5 ET 7 PIEDS

FIGURE B.9

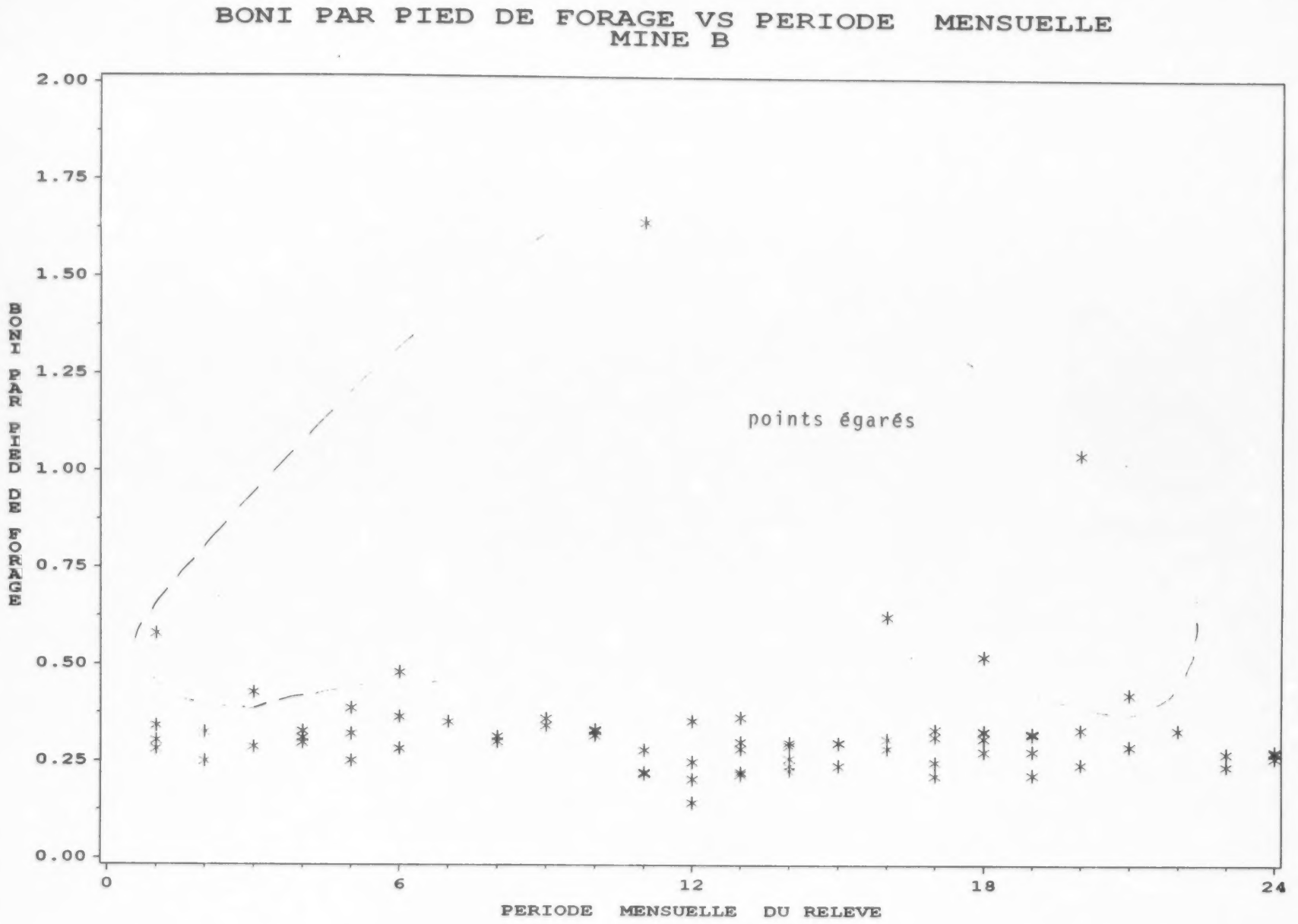

BONI PAR PIED DE FORAGE VS PERIODE MENSUELLE
MINE B
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
BONI PAR PIED DE FORAGE
points égarés
0
6
12
18
24
PERIODE MENSUELLE DU RELEVE

FIGURE B.10

PRIME AU RENDEMENT VS NOMBRE DE PIEDS DE FORAGE
MINE B

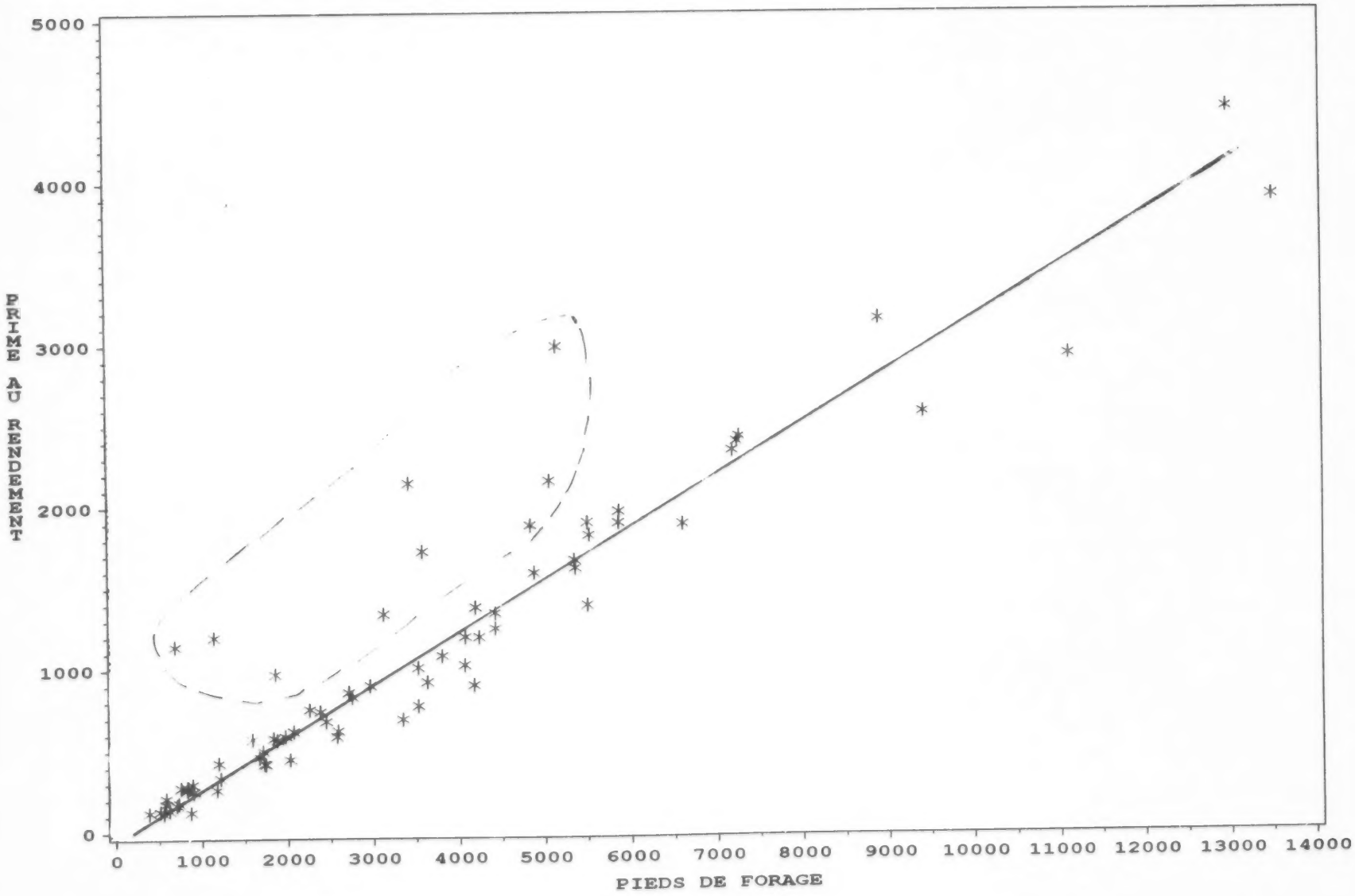


FIGURE B.11

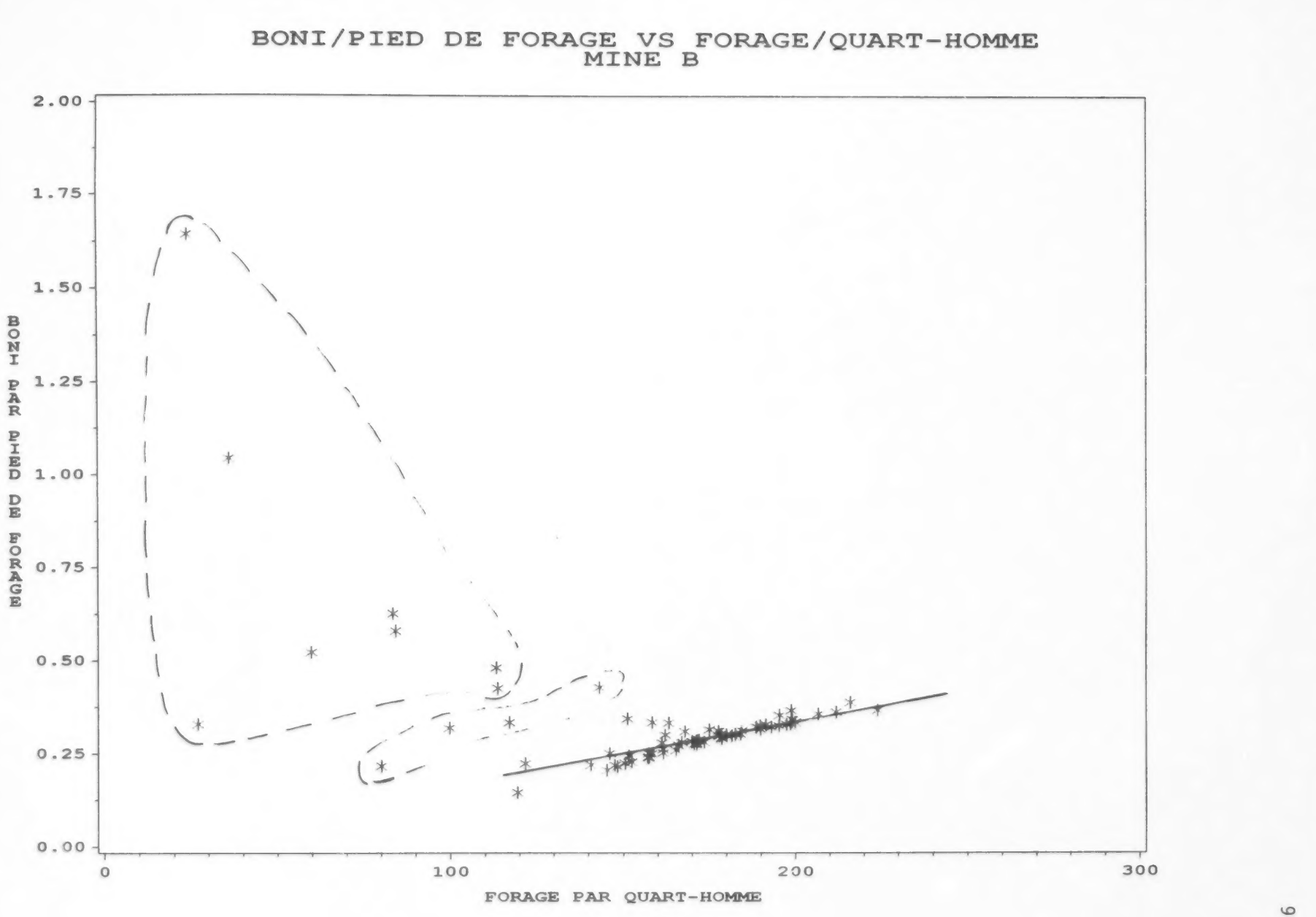

BONI/PIED DE FORAGE VS FORAGE/QUART-HOMME
MINE B
BONI PAR PIED DE FORAGE
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0
100
200
300
FORAGE PAR QUART-HOMME

FIGURE B. 12

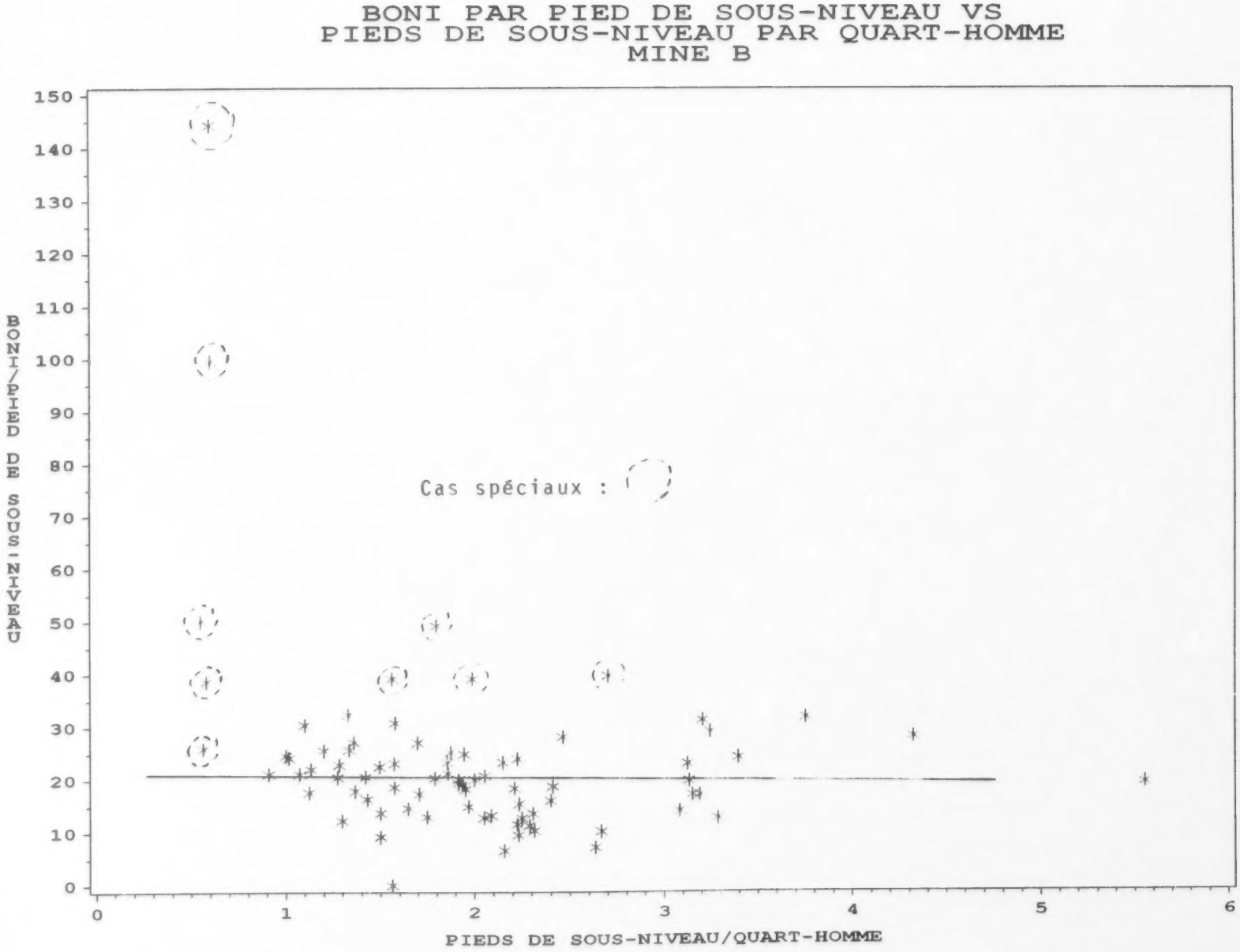
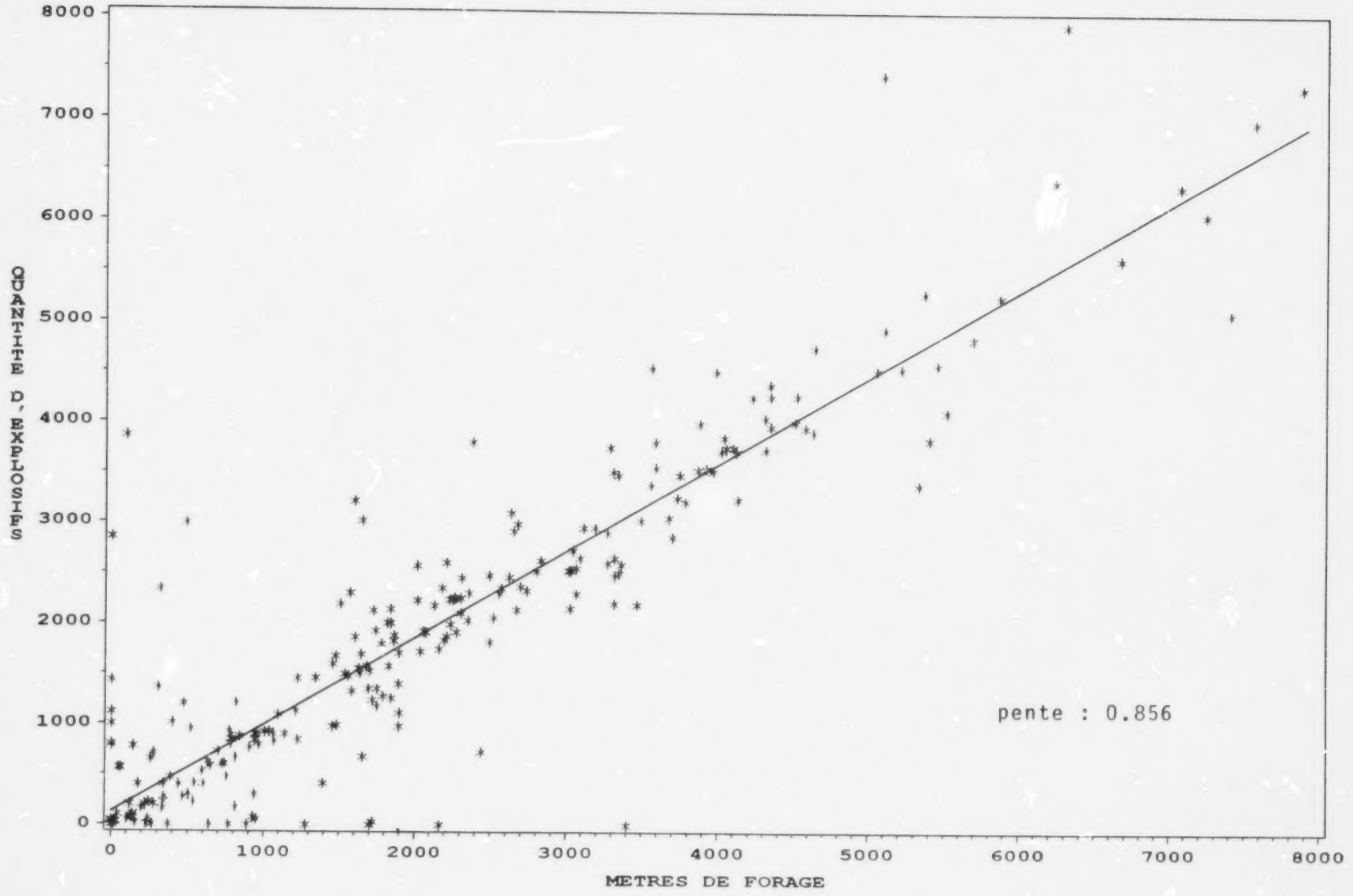
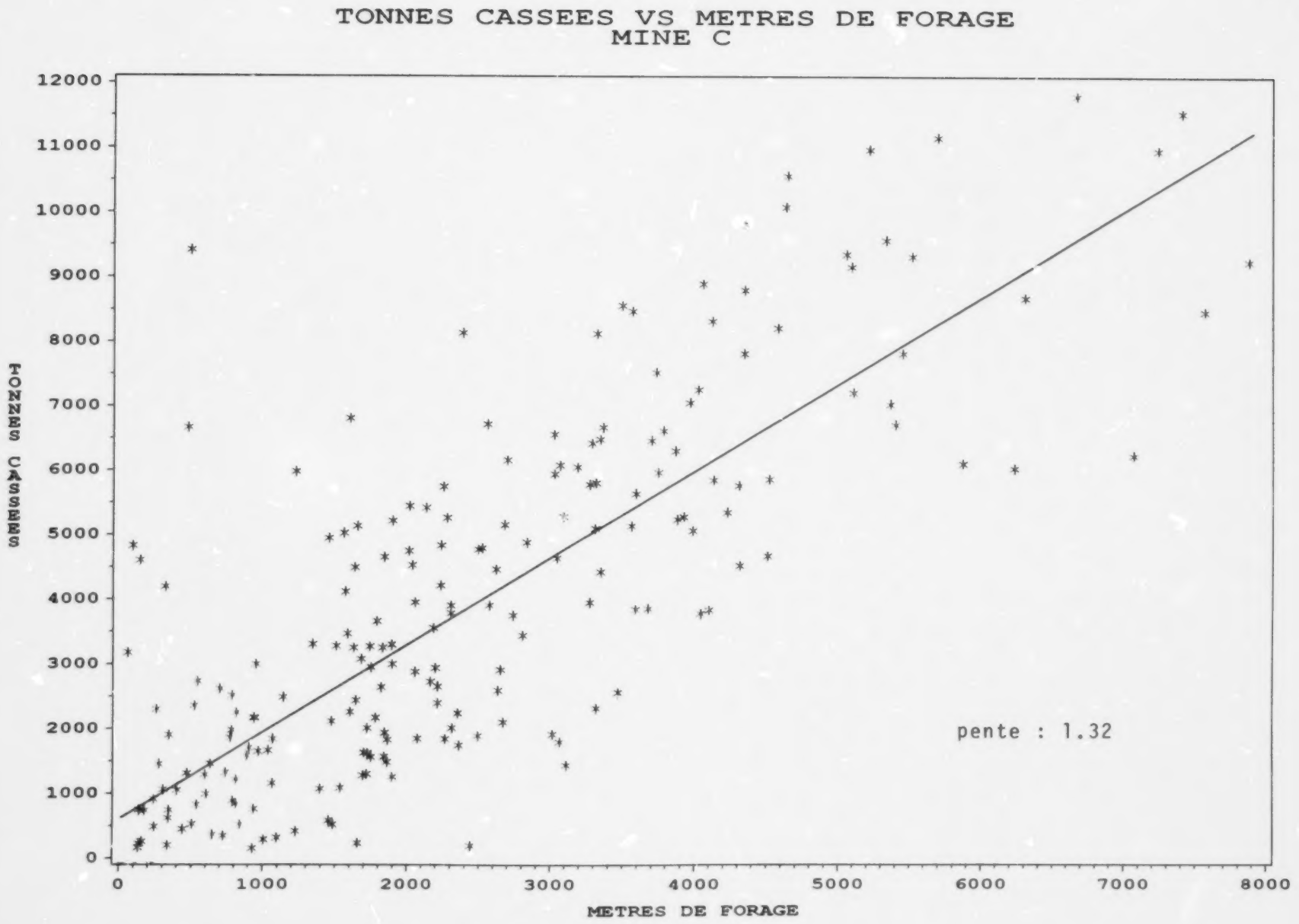

BONI PAR PIED DE SOUS-NIVEAU VS
PIEDS DE SOUS-NIVEAU PAR QUART-HOMME
MINE B
BONI/PIED DE SOUS-NIVEAU
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
Cas spéciaux :
0
1
2
3
4
5
6
PIEDS DE SOUS-NIVEAU/QUART-HOMME

FIGURE B. 13



NOTE: EXPLOSIFS EN KILOGRAMMES

FIGURE C.1



NOTE: TONNES METRIQUES

FIGURE C.2

RAPPORT STERILE/MINERAI VS PROFONDEUR DES CHANTIERS
MINE C

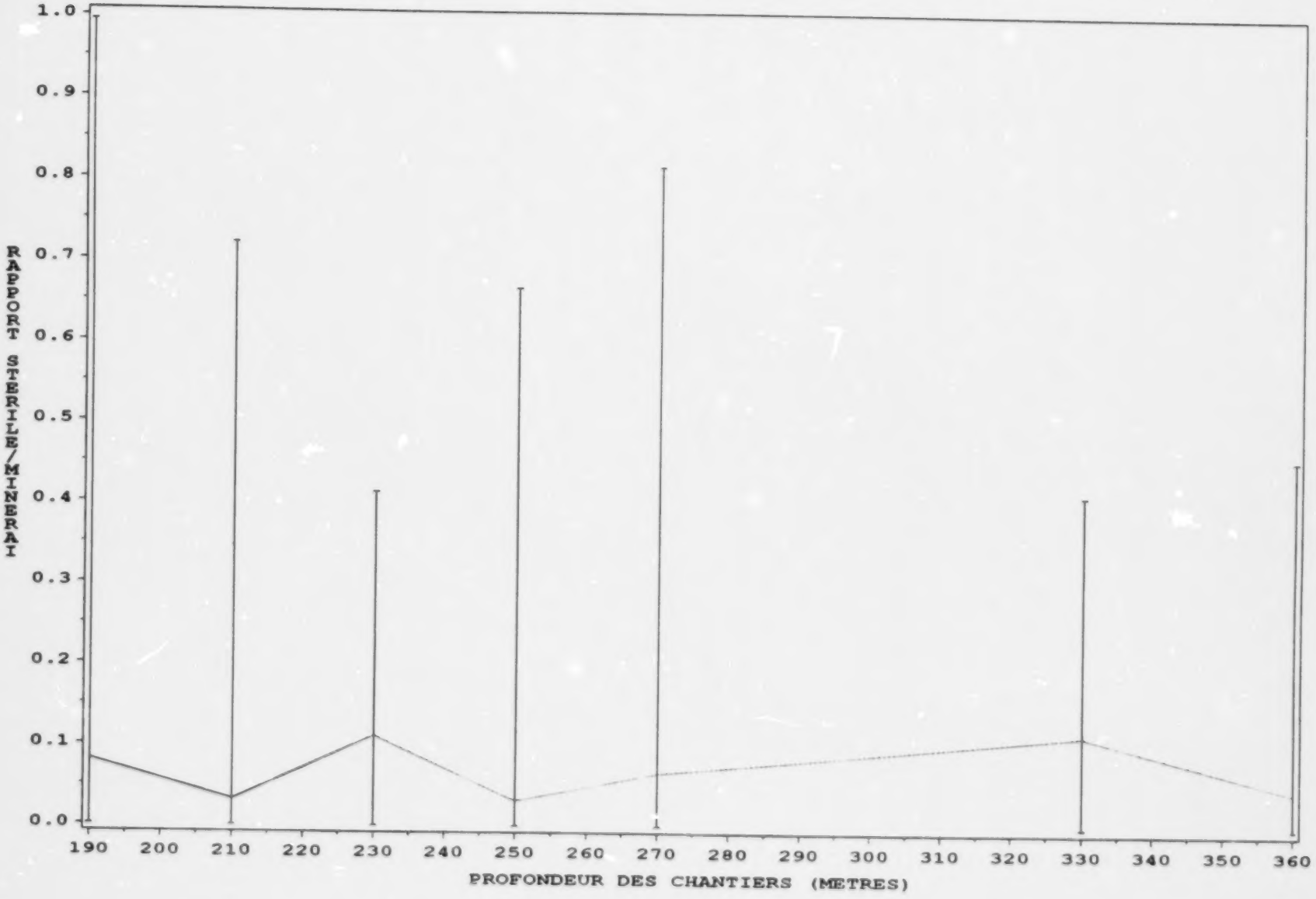
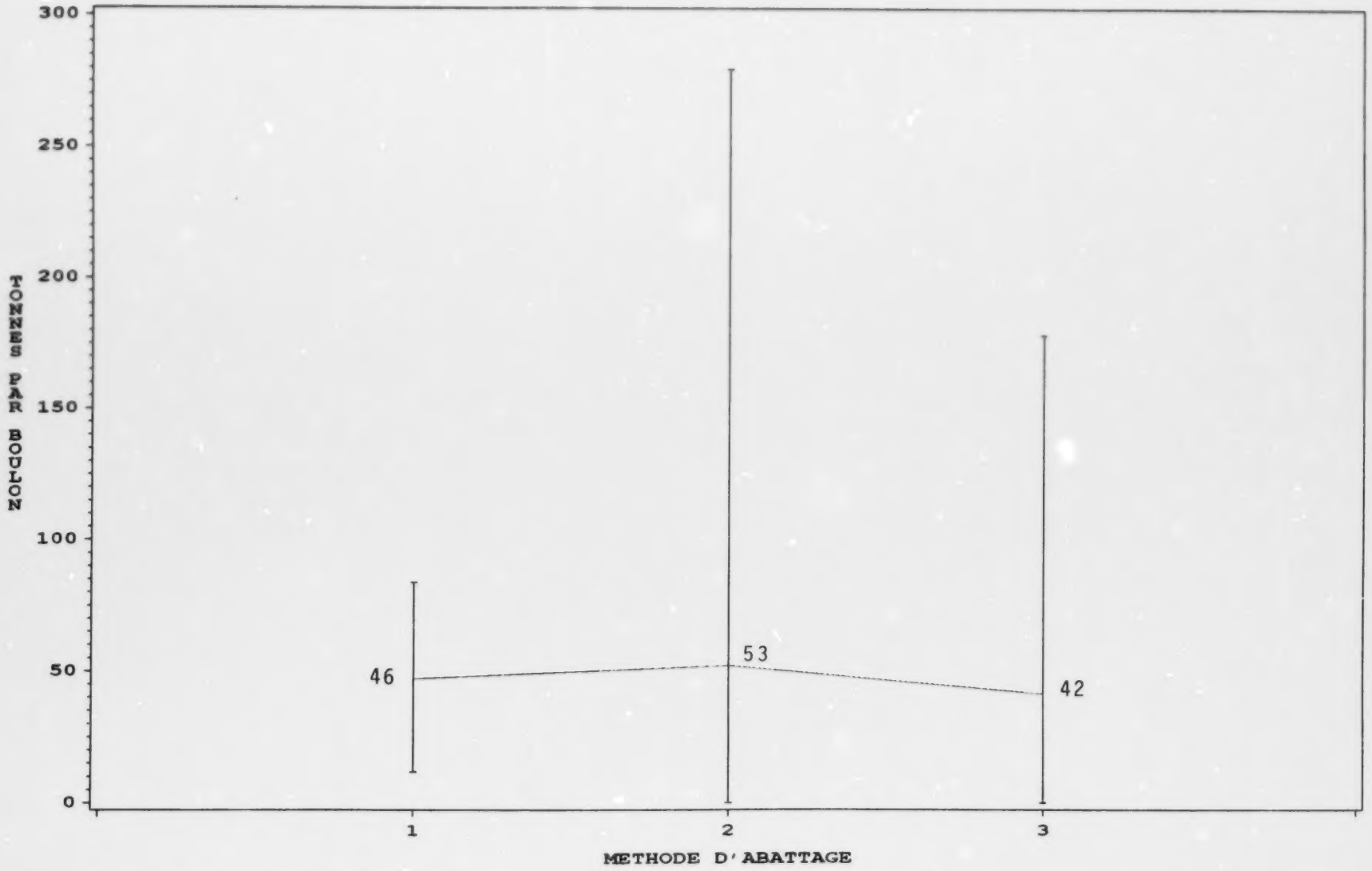


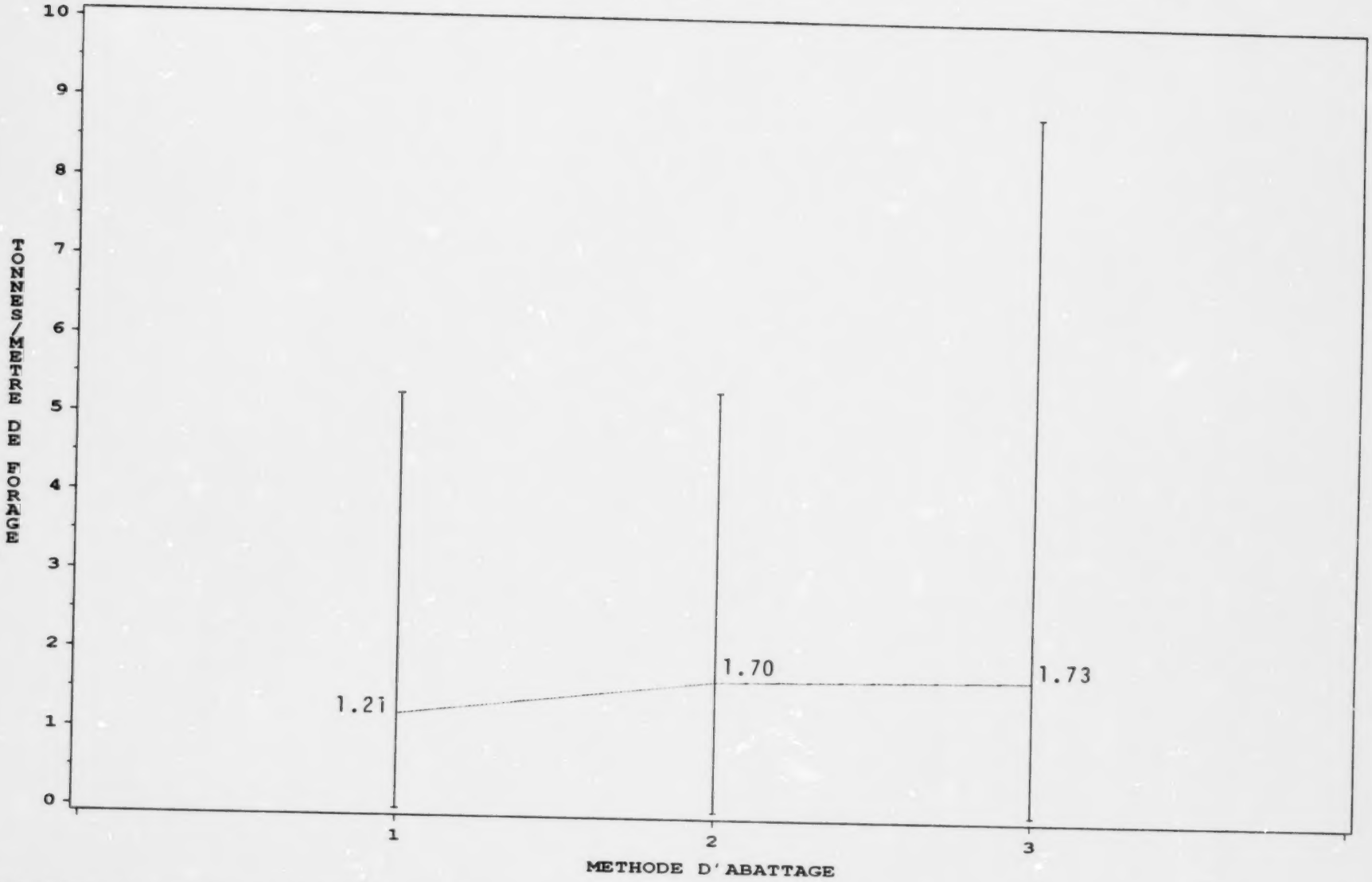
FIGURE C.3



METHODE 1: CHAMBRES ET PILIERS
METHODE 2: LONGS TROUS (PILIERS)
METHODE 3: LONGS TROUS

FIGURE C.4

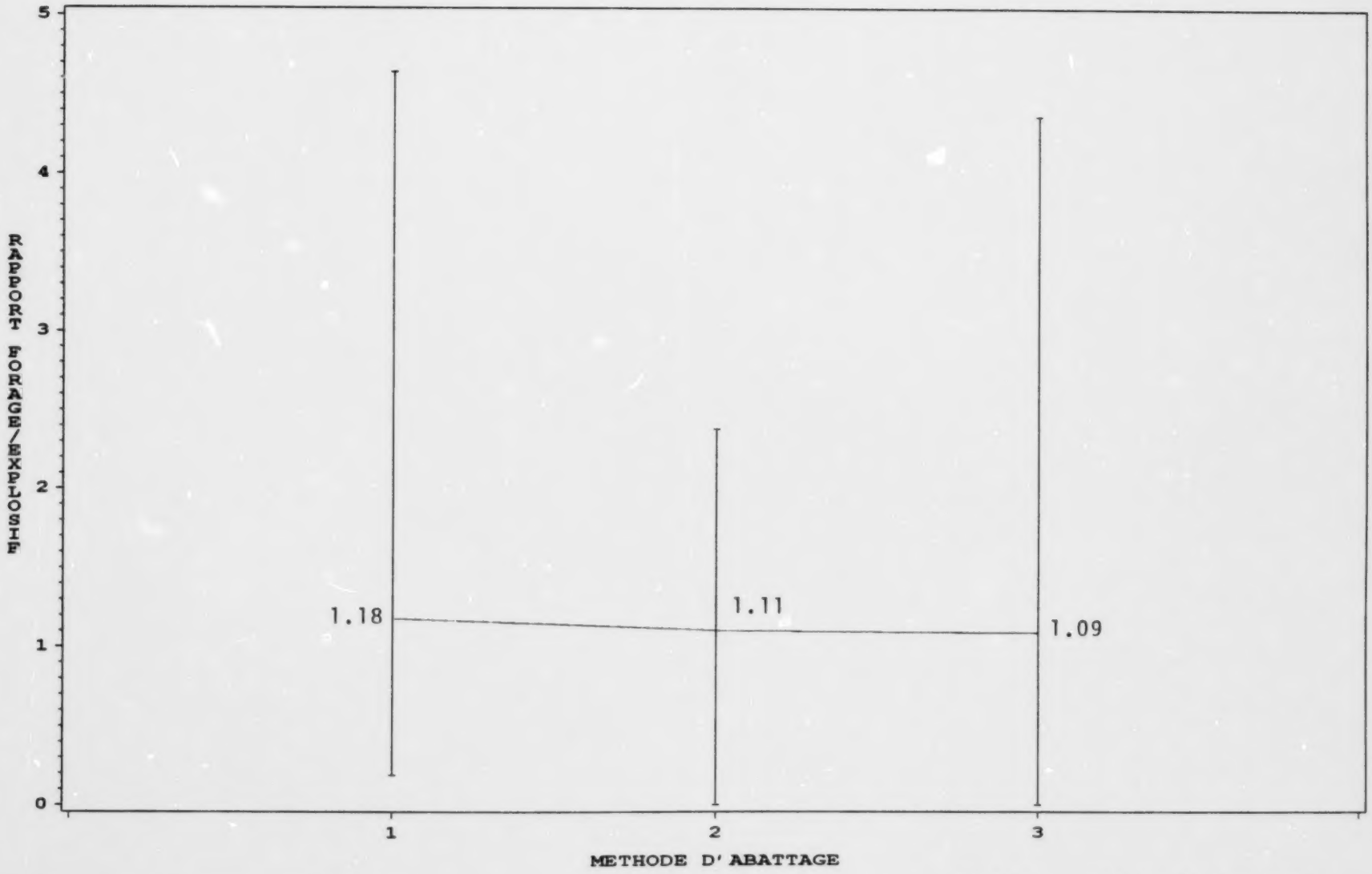
TONNES/METRE DE FORAGE VS METHODE D'ABATTAGE
MINE C



METHODE 1: CHAMBRES ET PILIERS
METHODE 2: LONGS TROUS (PILIERS)
METHODE 3: LONGS TROUS

FIGURE C.5

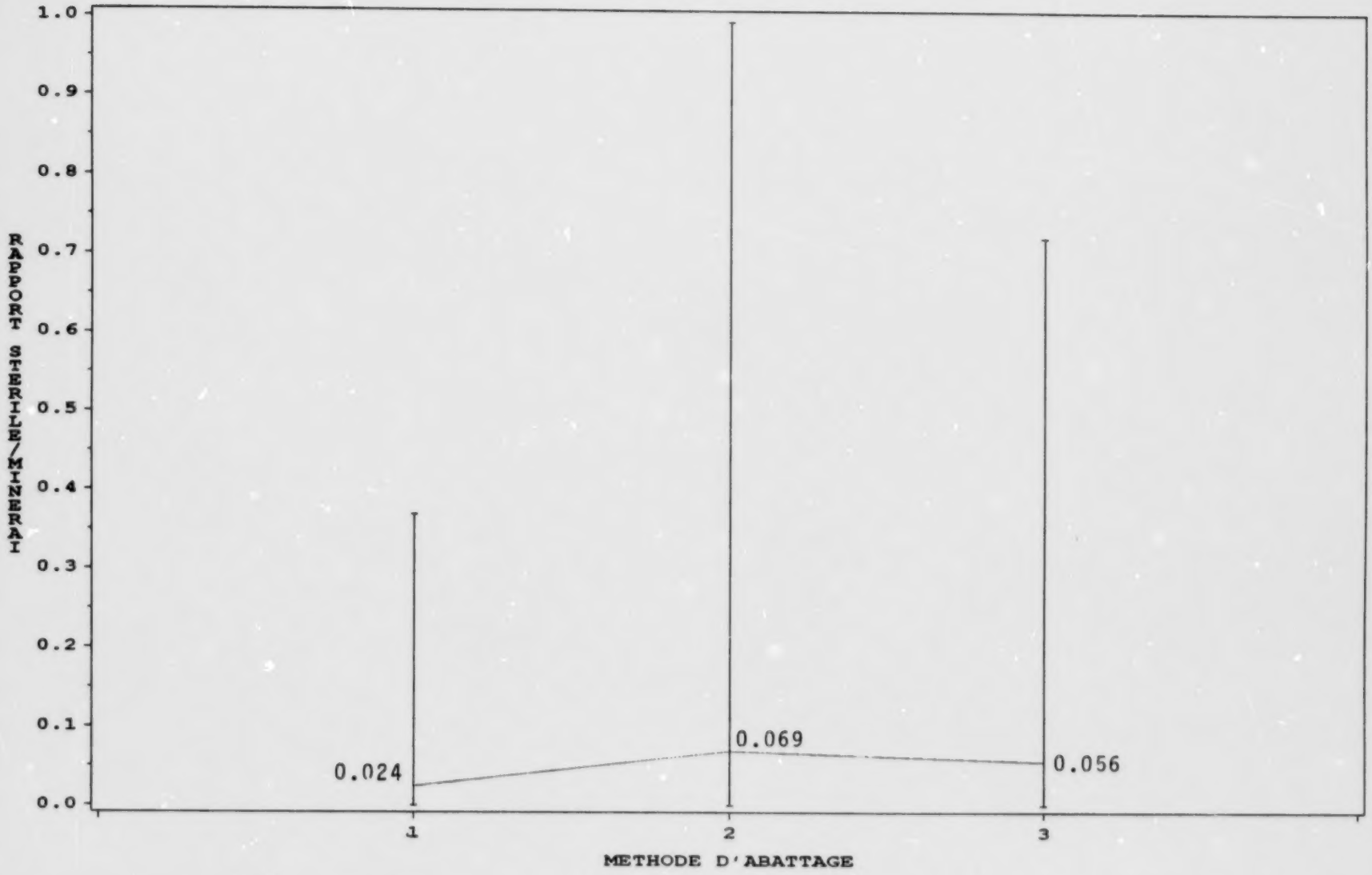
RAPPORT FORAGE/EXPLOSIF VS METHODE D'ABATTAGE
MINE C



Unités : mètres/kilogramme

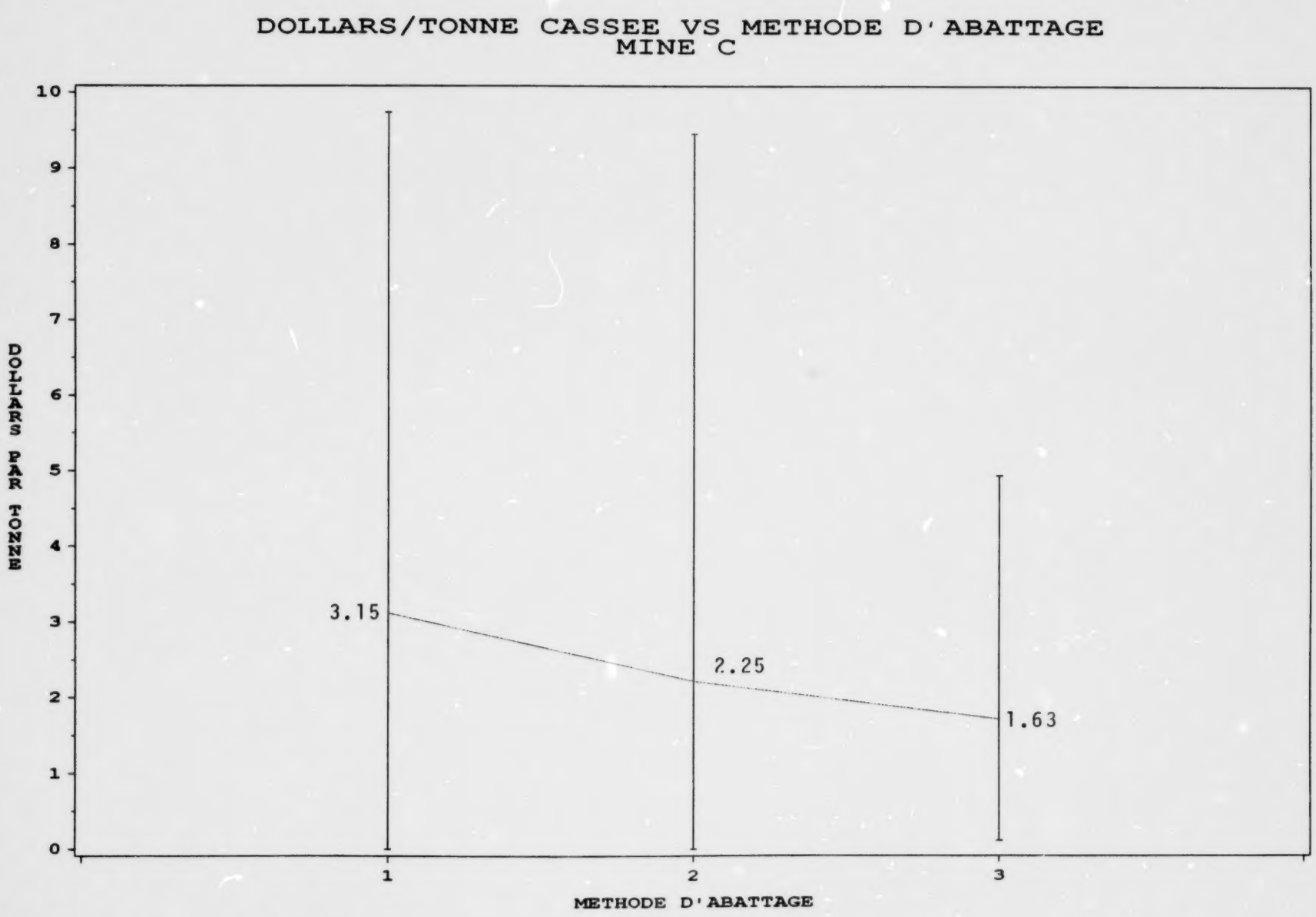
METHODE 1: CHAMBRES ET PILIERS
METHODE 2: LONGS TROUS (PILIERS)
METHODE 3: LONGS TROUS

FIGURE C.6



METHODE 1: CHAMBRES ET PILIERS
METHODE 2: LONGS TROUS (PILIERS)
METHODE 3: LONGS TROUS

FIGURE C.7



METHODE 1: CHAMBRES ET PILIERS
METHODE 2: LONGS TROUS (PILIERS)
METHODE 3: LONGS TROUS

FIGURE C.8

TONNES CASSEES/BOULON VS LARGEUR DES CHANTIERS
MINE C

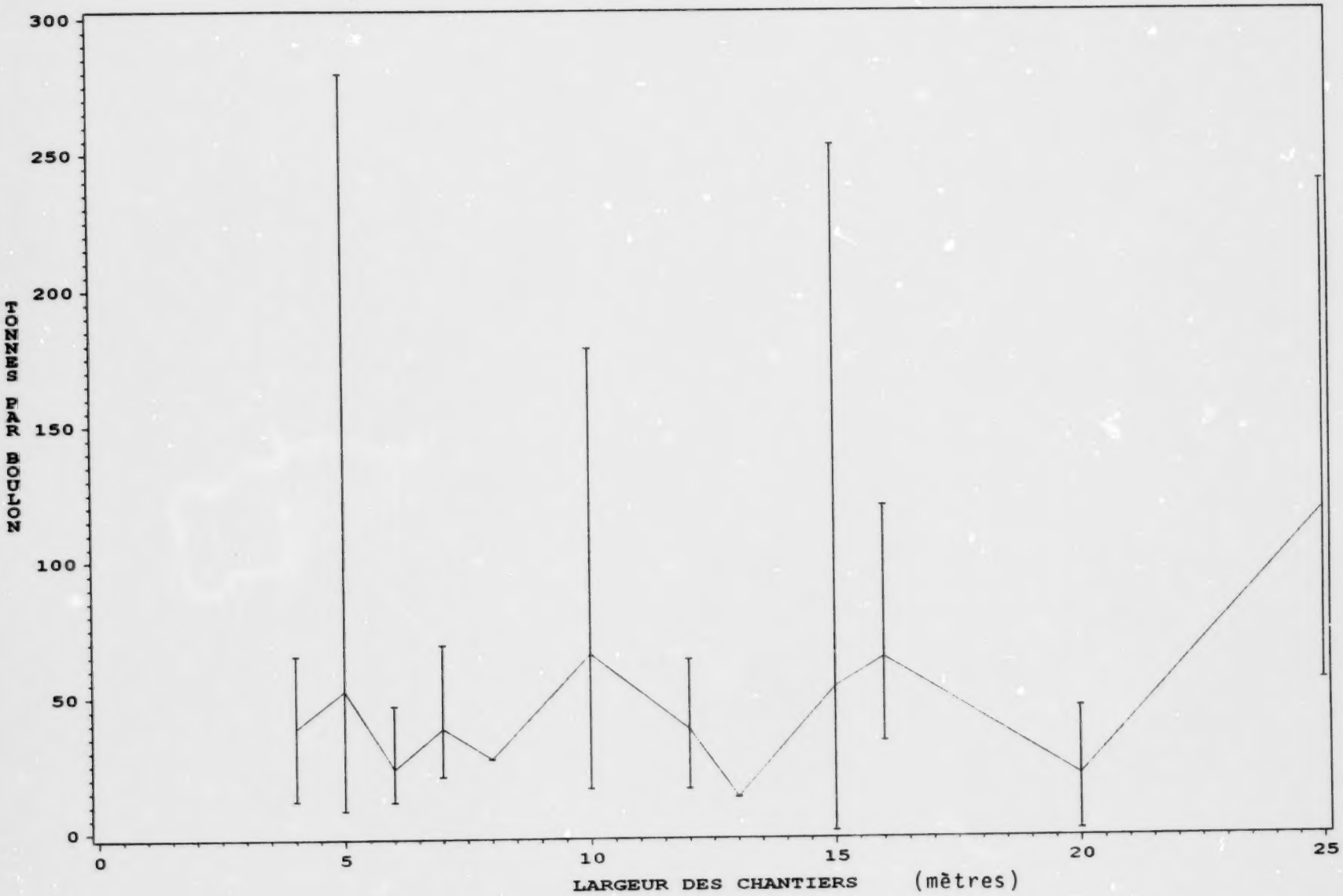


FIGURE C.9

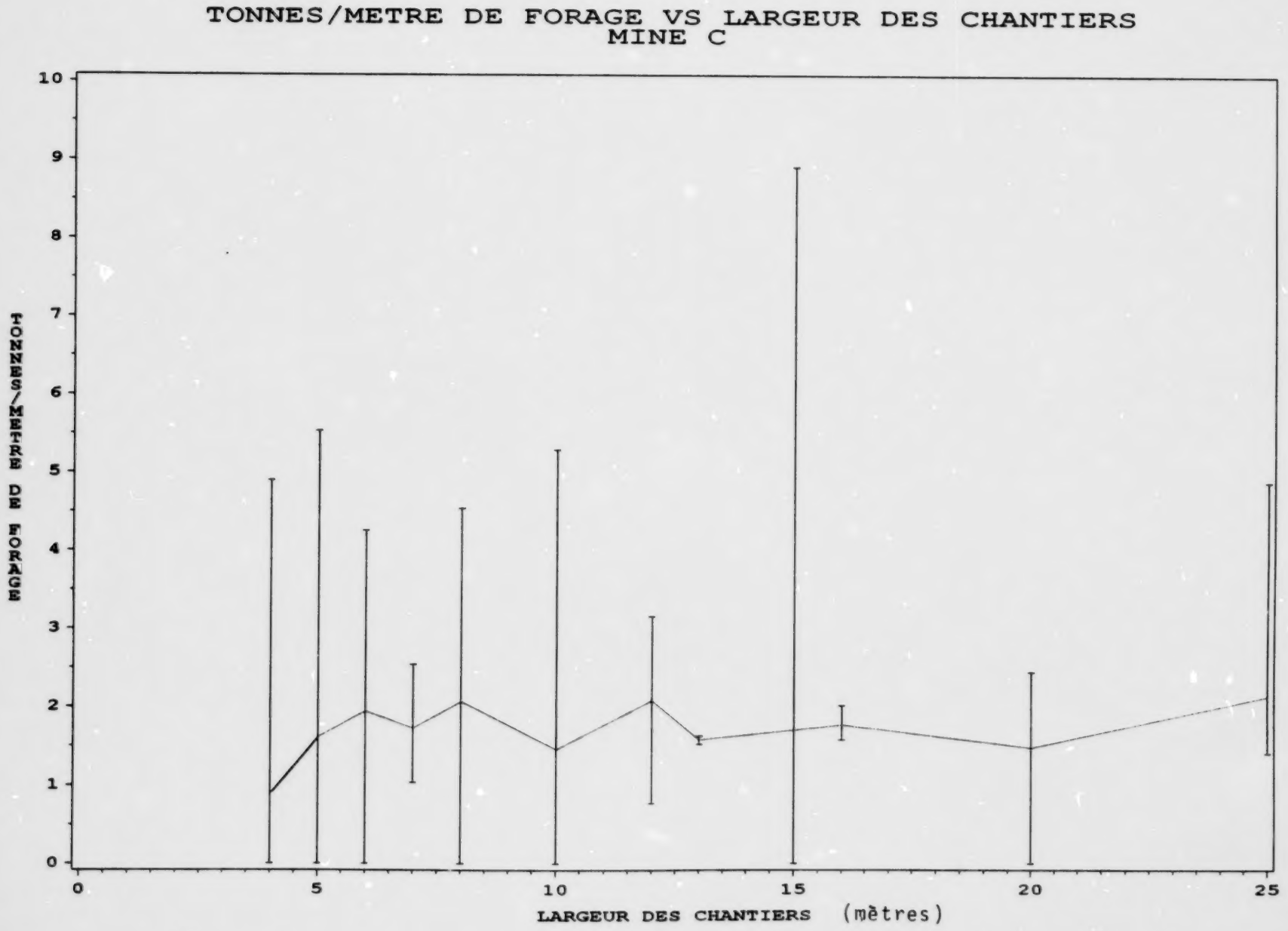

TONNES/METRE DE FORAGE VS LARGEUR DES CHANTIERS
MINE C
TONNES/METRE DE FORAGE
0
1
2
3
4
5
6
7
8
9
10
0
5
10
15
20
25
LARGEUR DES CHANTIERS (mètres)

FIGURE C.10

RAPPORT FORAGE/EXPLOSIF VS LARGEUR DES CHANTIERS
MINE C

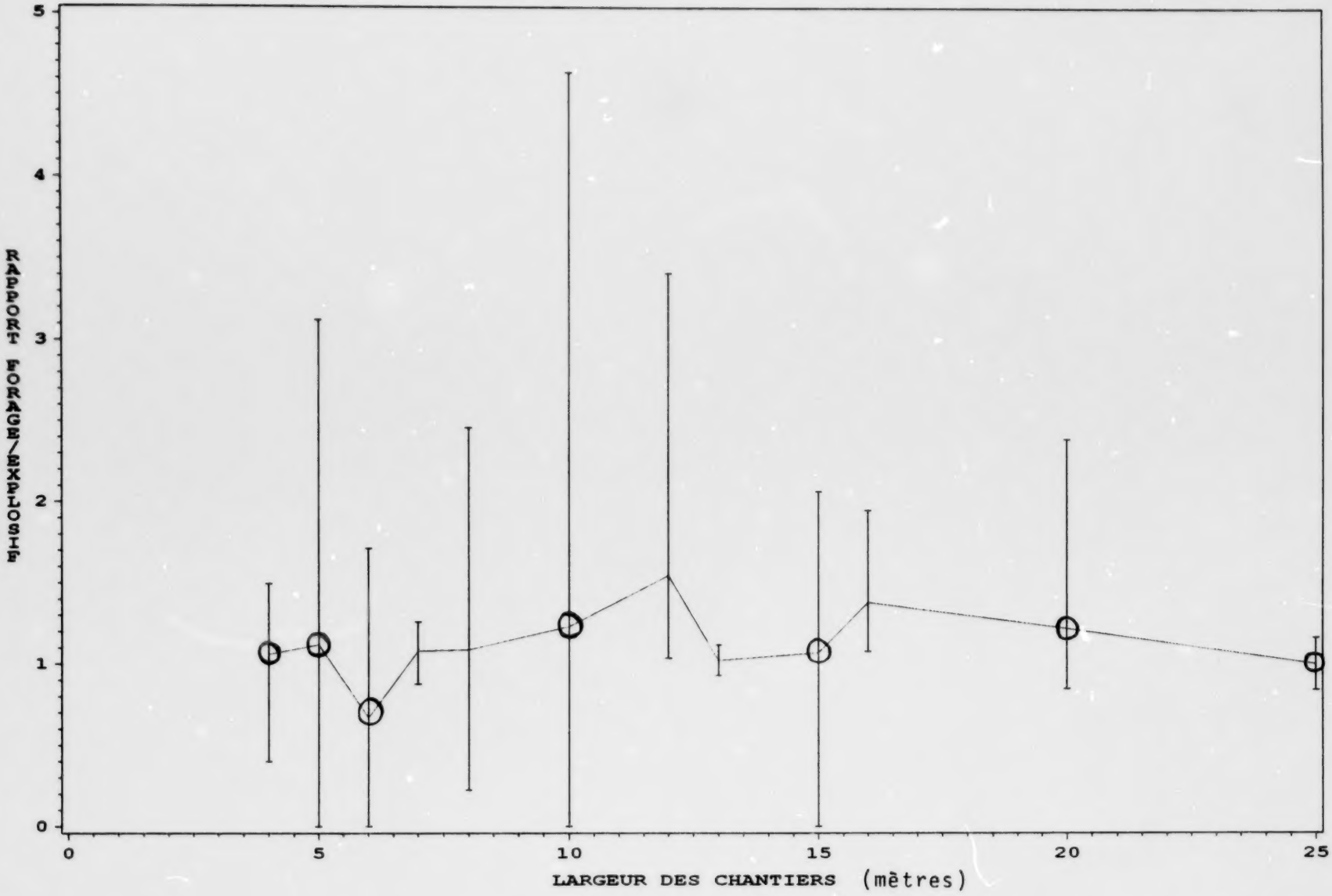


FIGURE C.11 Unités : mètres/kilogramme

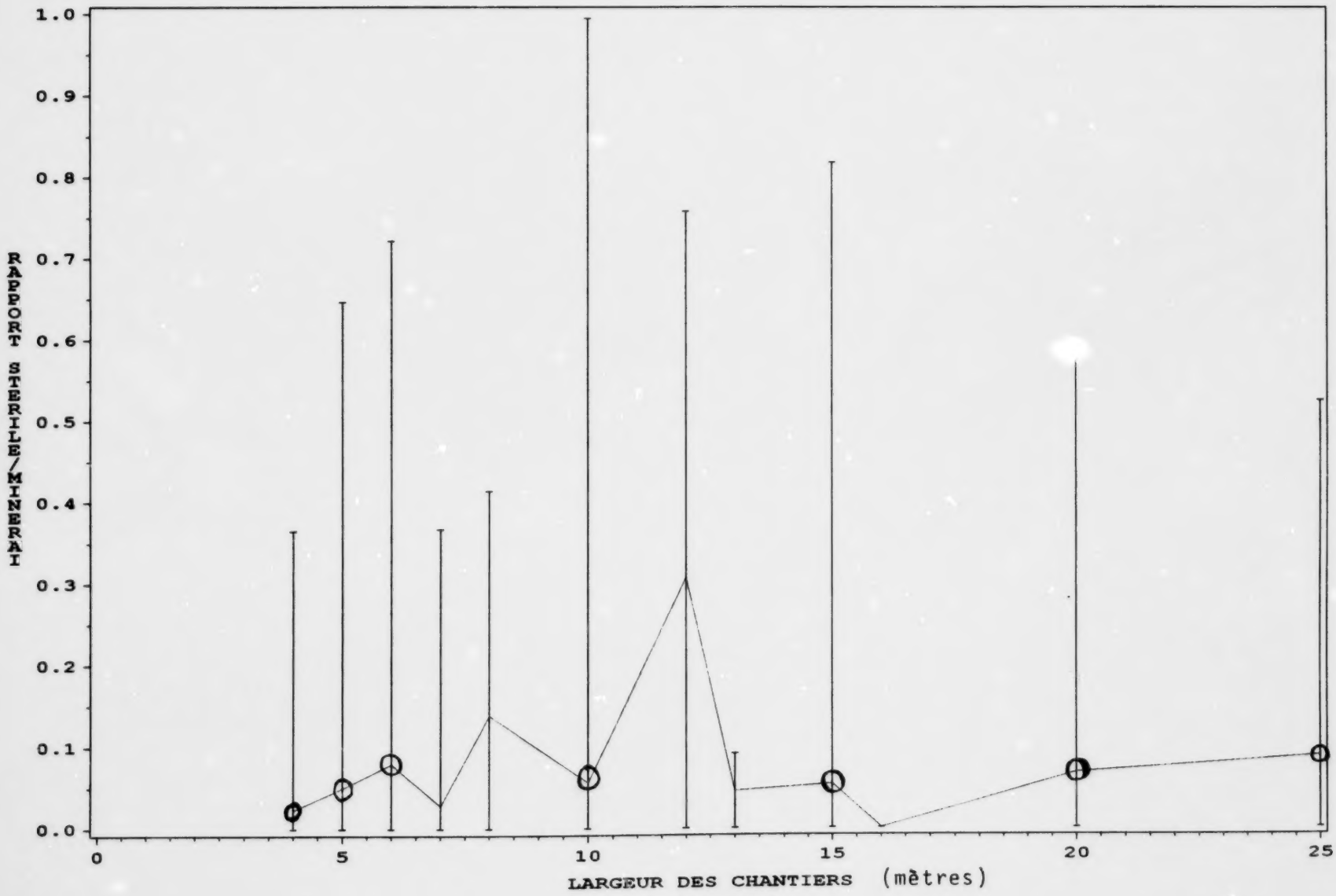

RAPPORT STERILE/MINERAI VS LARGEUR DES CHANTIERS
MINE C
RAPPORT STERILE/MINERAI
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
5
10
15
20
25
LARGEUR DES CHANTIERS (mètres)

FIGURE C.12

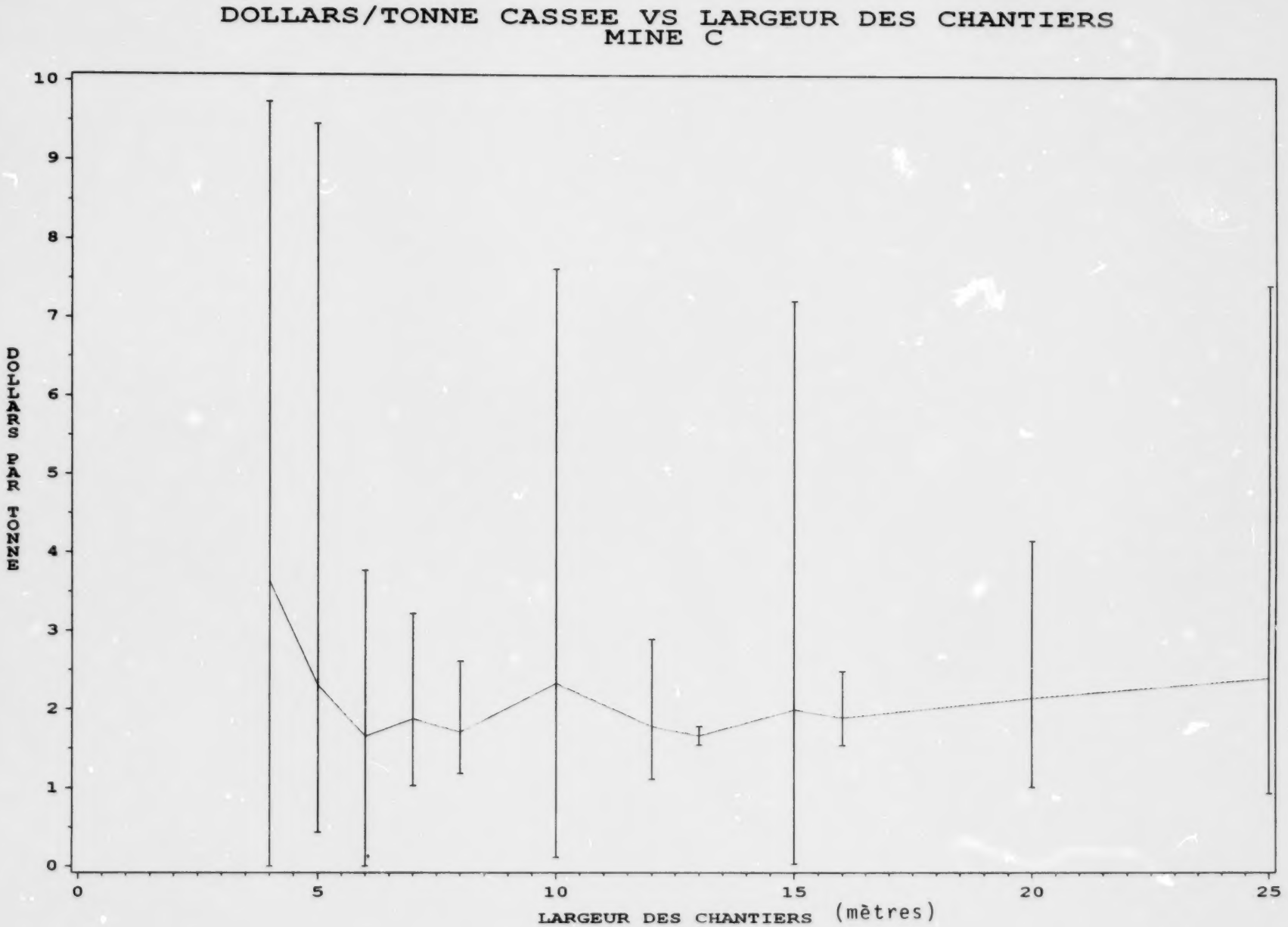

DOLLARS/TONNE CASSEE VS LARGEUR DES CHANTIERS
MINE C
DOLLARS PAR TONNE
0
1
2
3
4
5
6
7
8
9
10
0
5
10
15
20
25
LARGEUR DES CHANTIERS (mètres)

FIGURE C.13

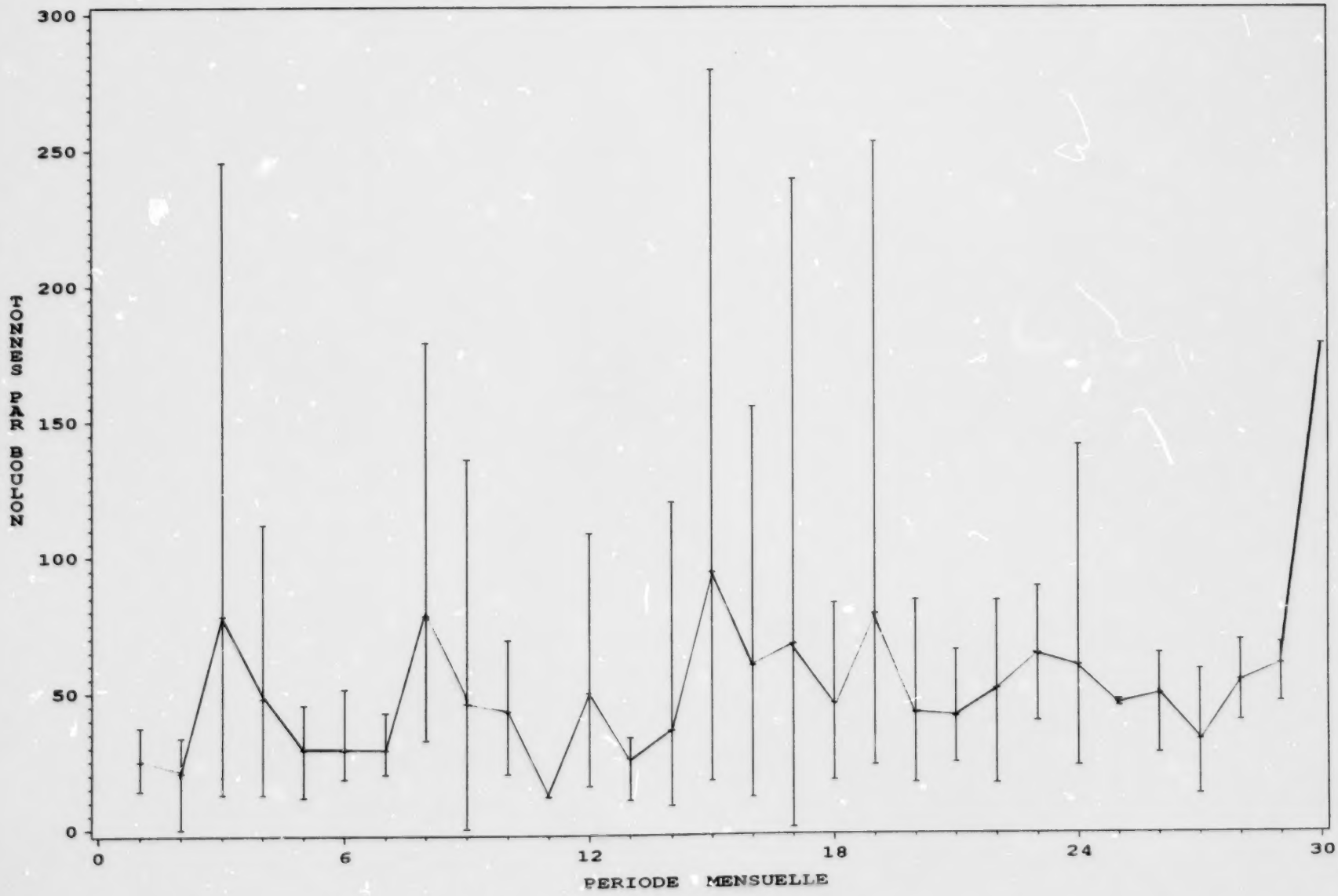

TONNES CASSEES/BOULON VS PERIODE DU RELEVE
MINE C
TONNES PAR BOULON
300
250
200
150
100
50
0
0
6
12
18
24
30
PERIODE MENSUELLE

FIGURE C.14

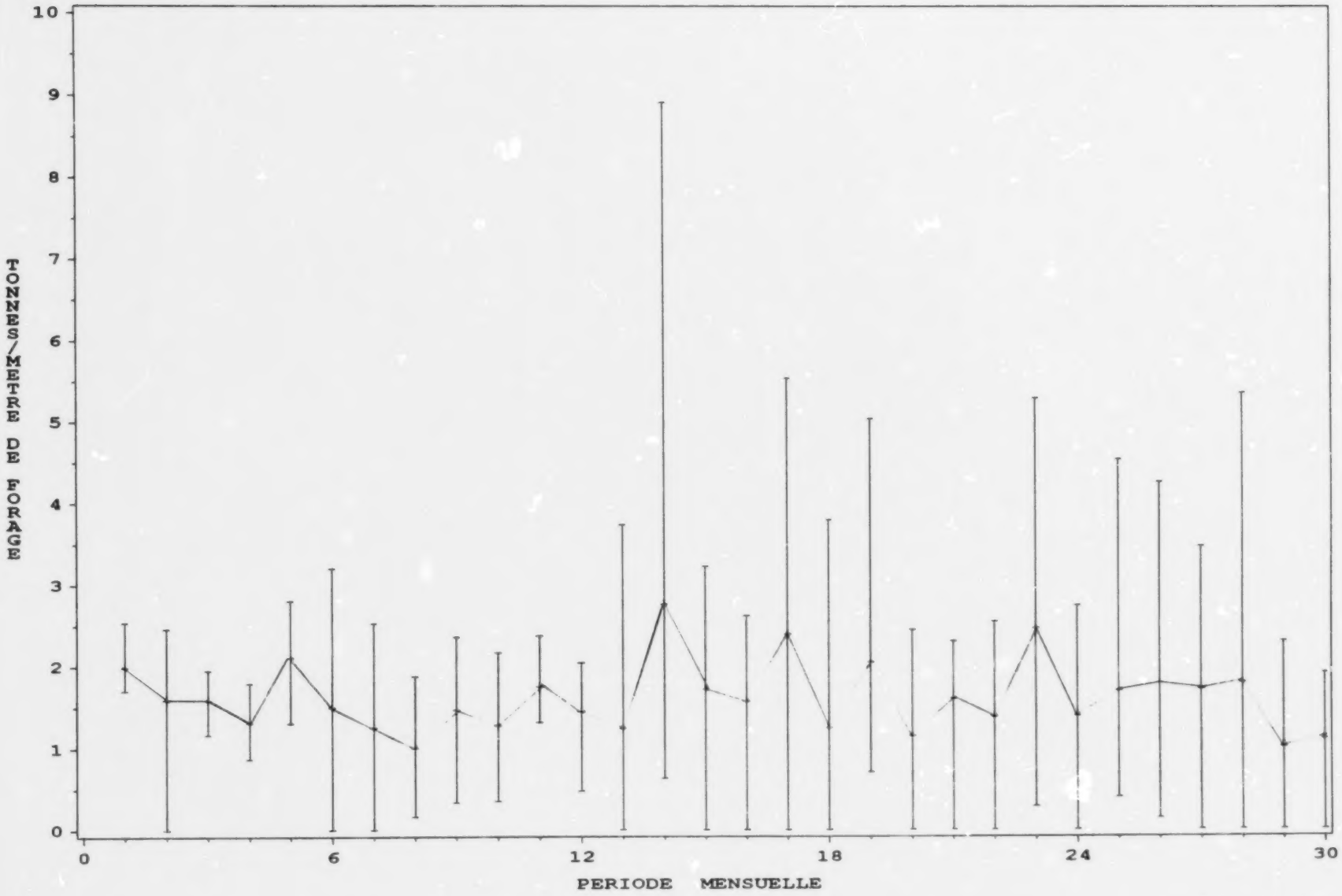

TONNES/METRE DE FORAGE VS PERIODE DU RELEVE
MINE C
TONNES/METRE DE FORAGE
0
1
2
3
4
5
6
7
8
9
10
0
6
12
18
24
30
PERIODE MENSUELLE

FIGURE C.15

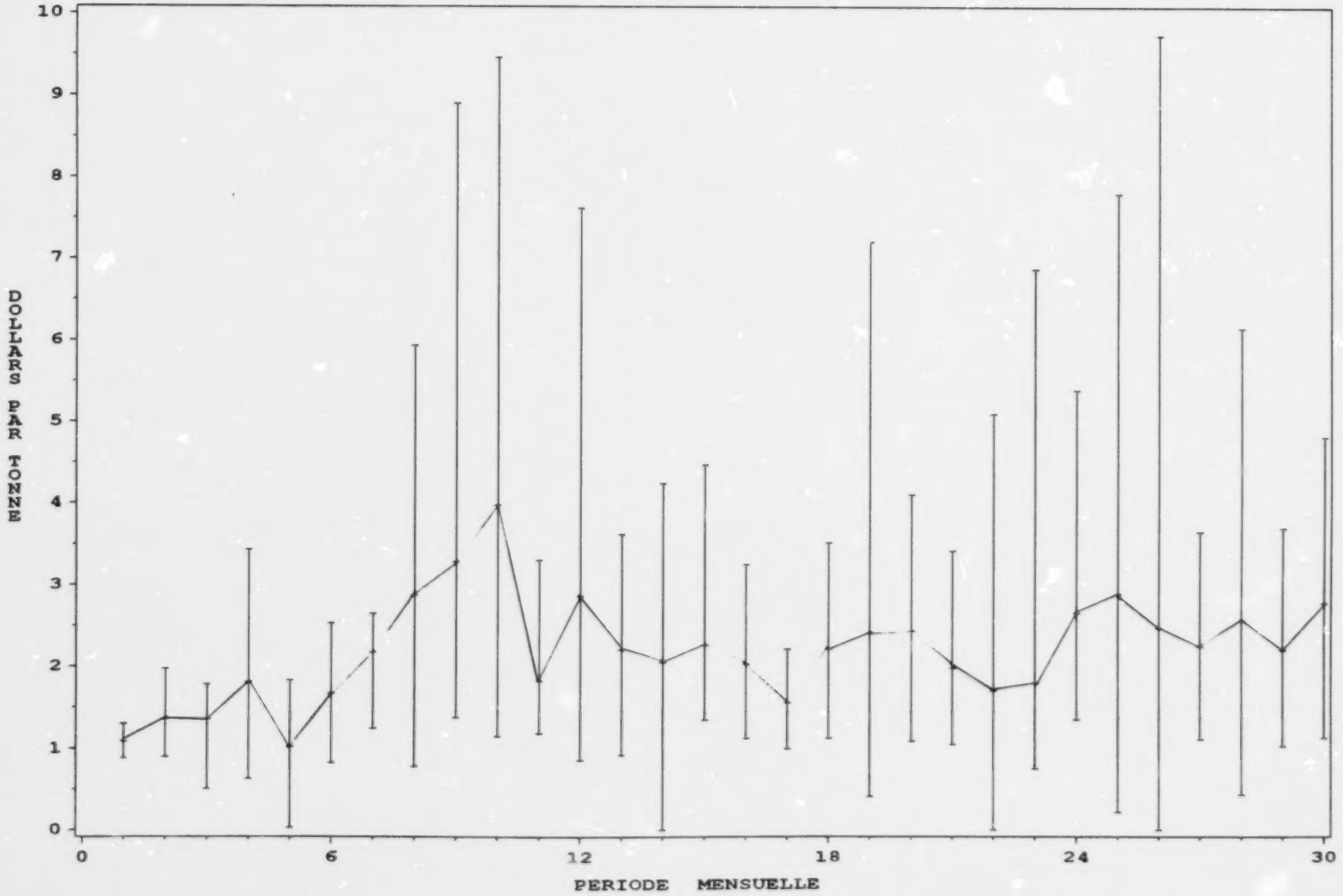
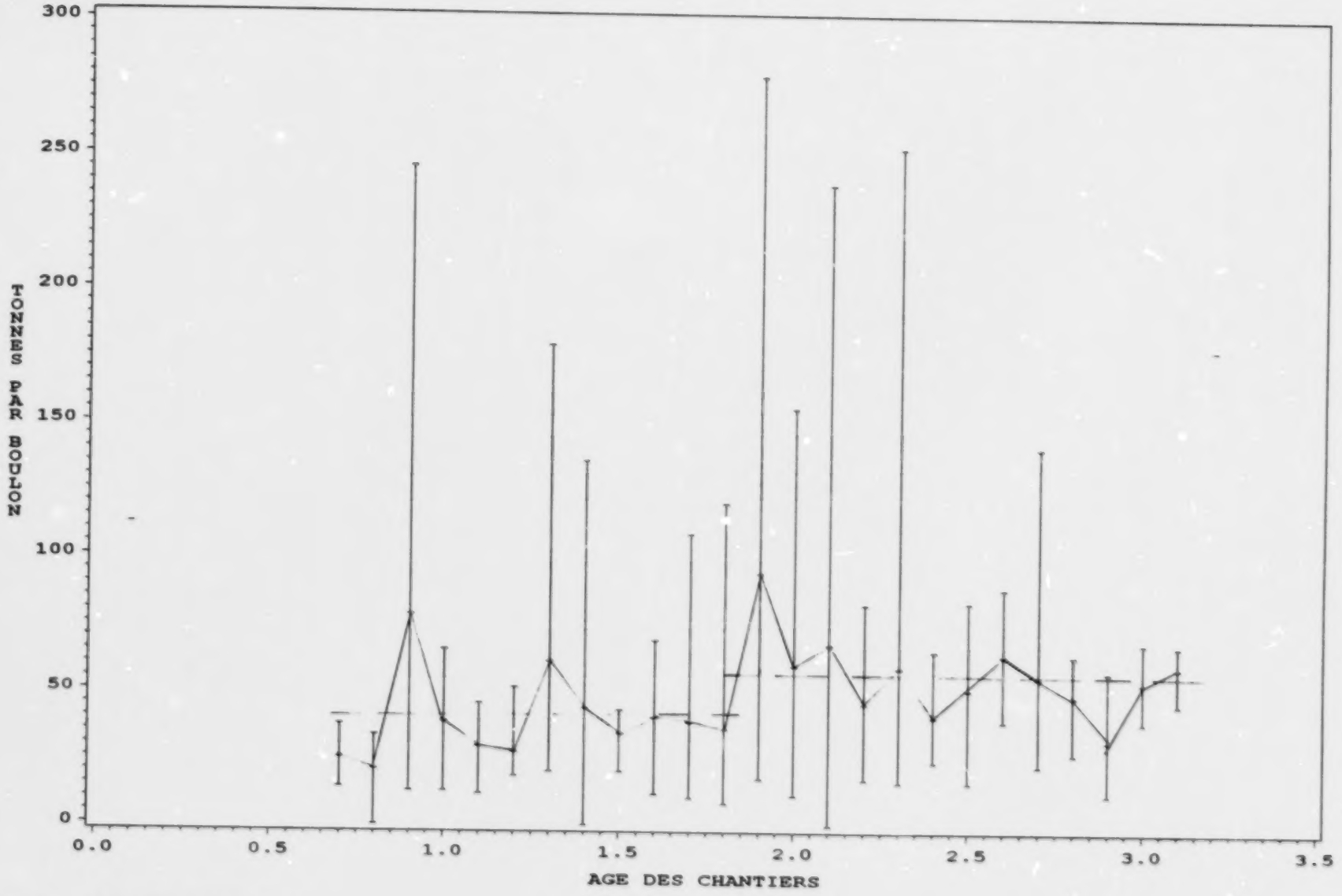

DOLLARS/TONNE CASSEE VS PERIODE DU RELEVE
MINE C
DOLLARS PAR TONNE
0
1
2
3
4
5
6
7
8
9
10
0
6
12
18
24
30
PERIODE MENSUELLE

FIGURE C.16

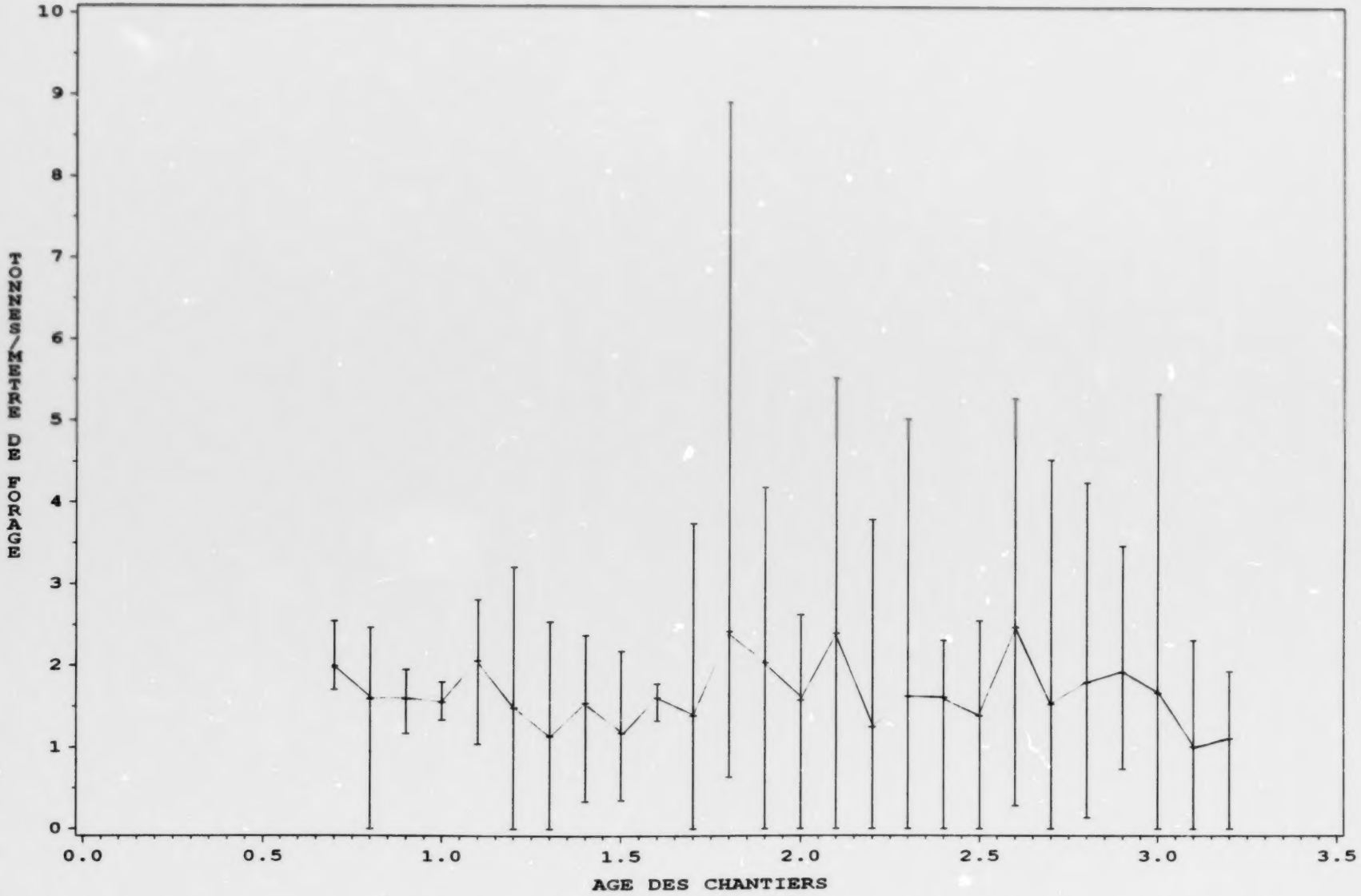
TONNES CASSEES/BOULON VS AGE DES CHANTIERS
MINE C



NOTE: TONNES METRIQUES

FIGURE C.17

TONNES/METRE DE FORAGE VS AGE DES CHANTIERS
MINE C



NOTE: TONNES METRIQUES

FIGURE C.18

RAPPORT FORAGE/EXPLOSIF VS AGE DES CHANTIERS
MINE C

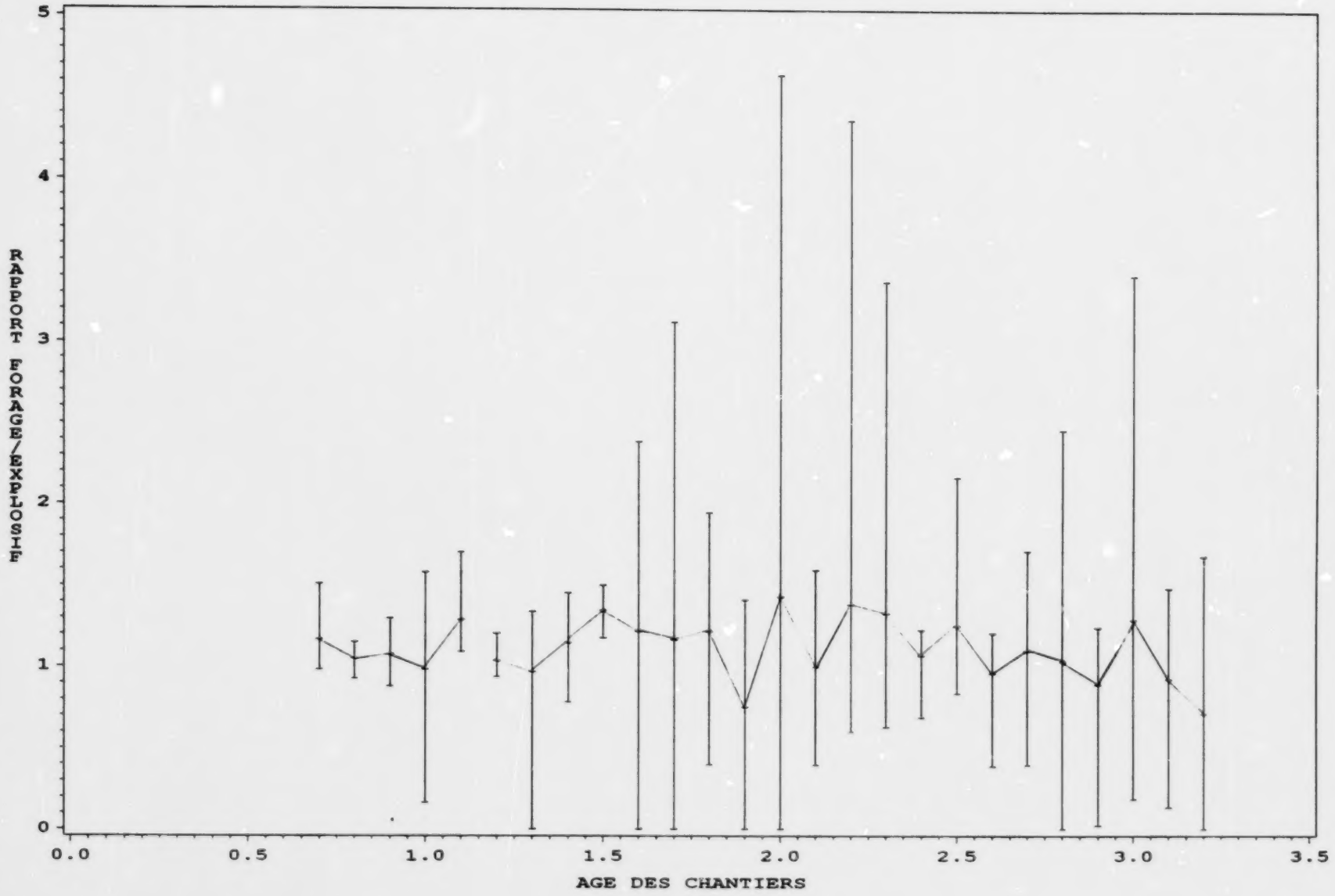


FIGURE C.19

RAPPORT STERILE/MINERAI VS AGE DES CHANTIERS
MINE C

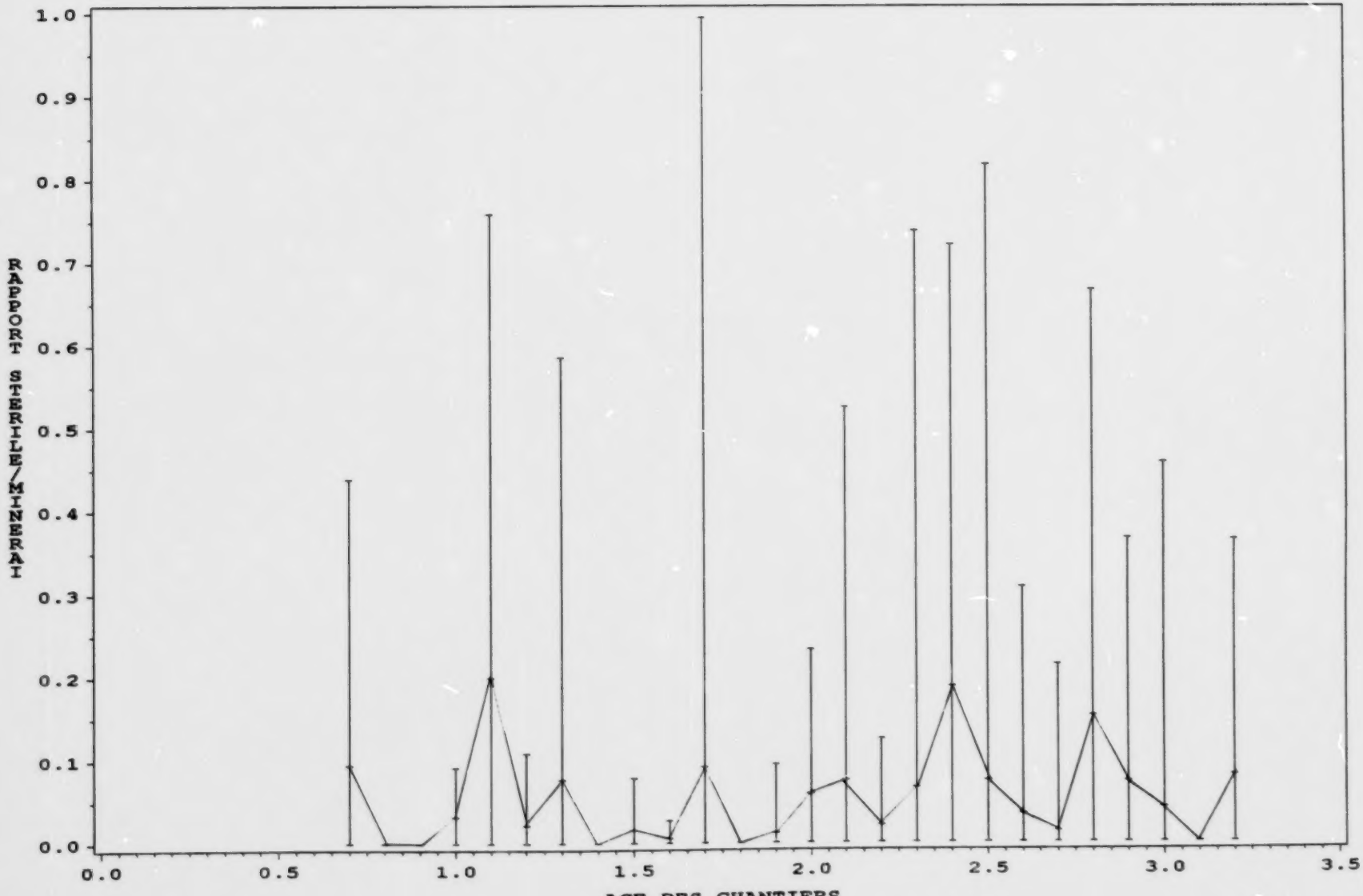
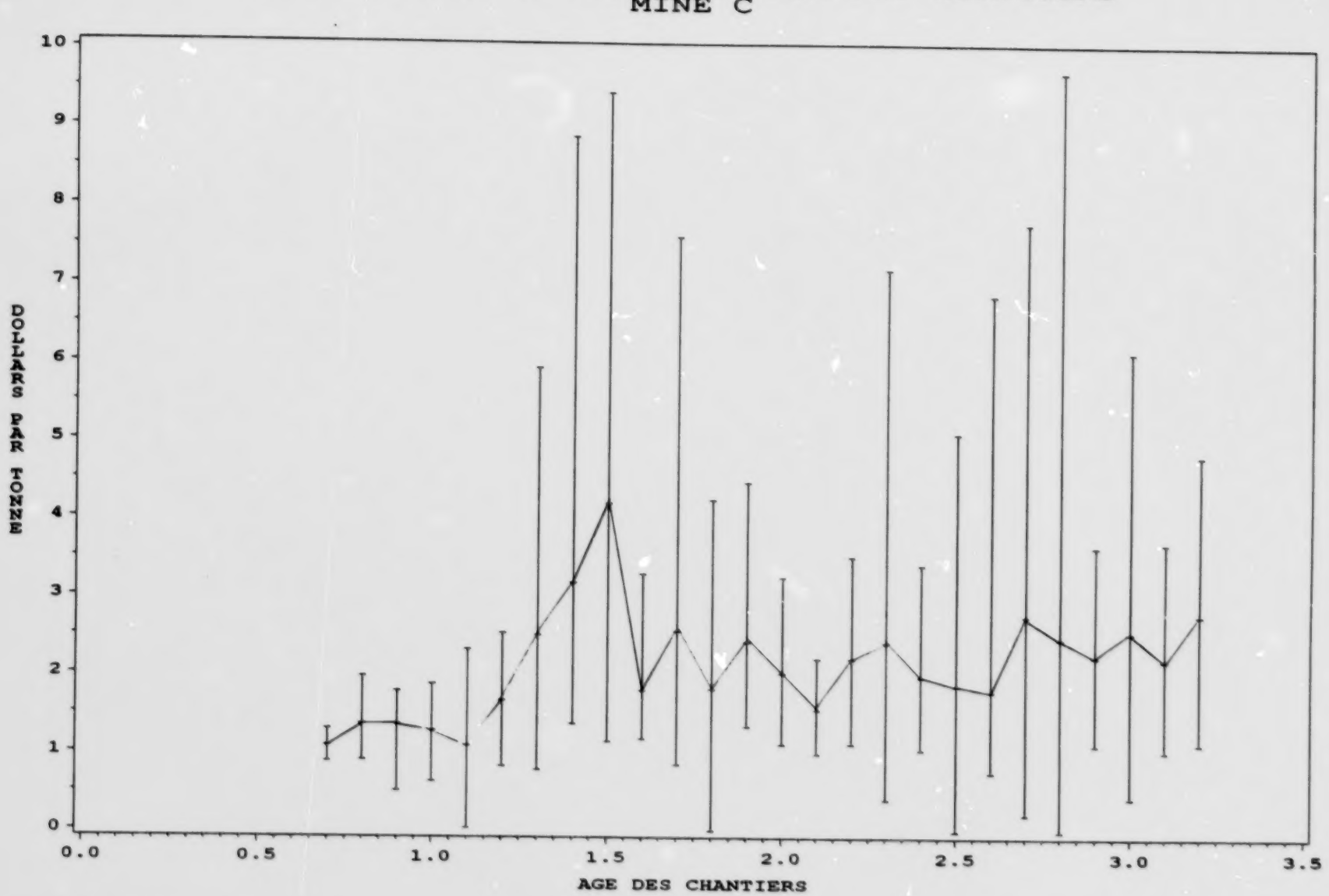


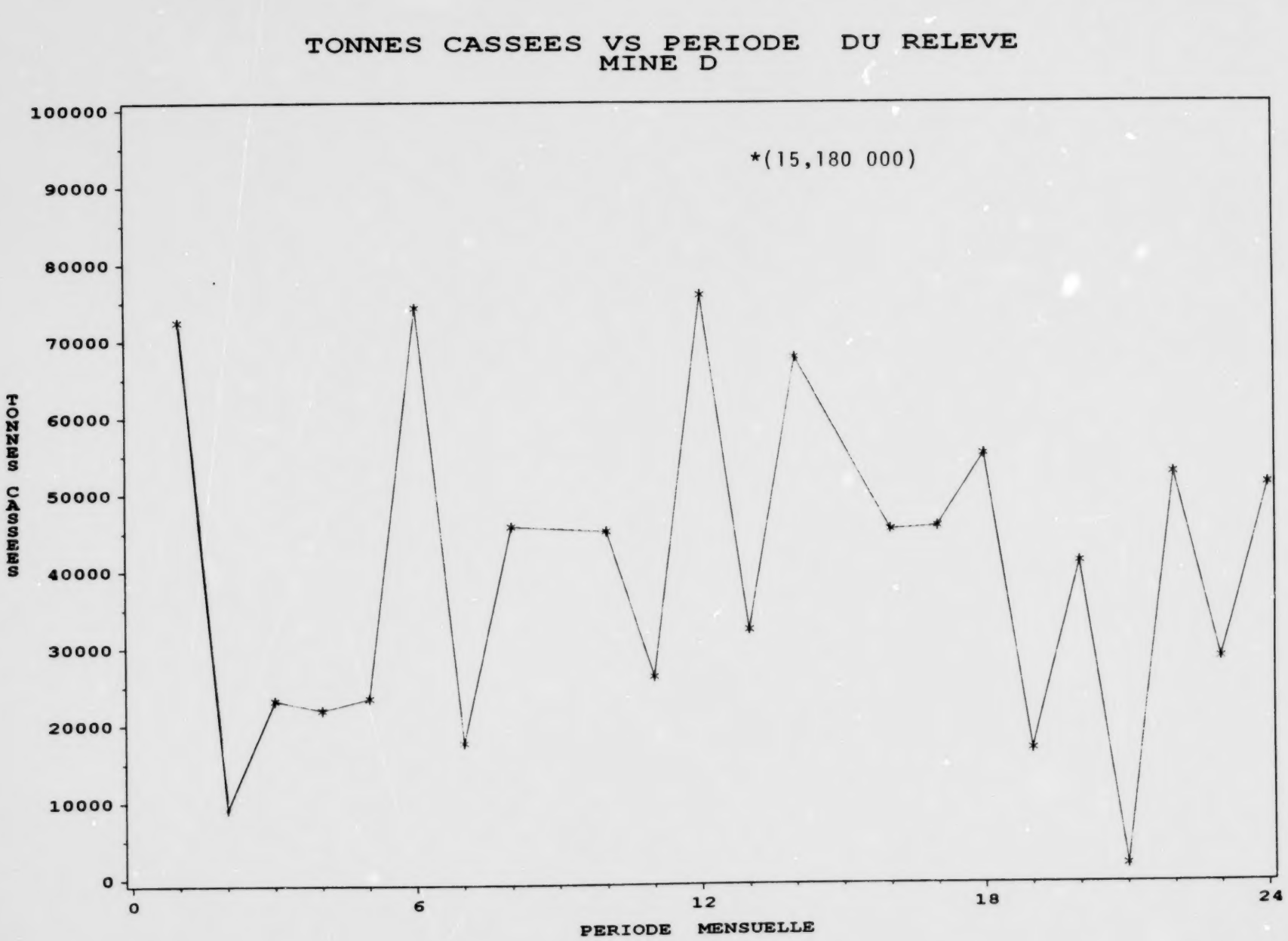
FIGURE C.20

DOLLARS/TONNE CASSEE VS AGE DES CHANTIERS
MINE C



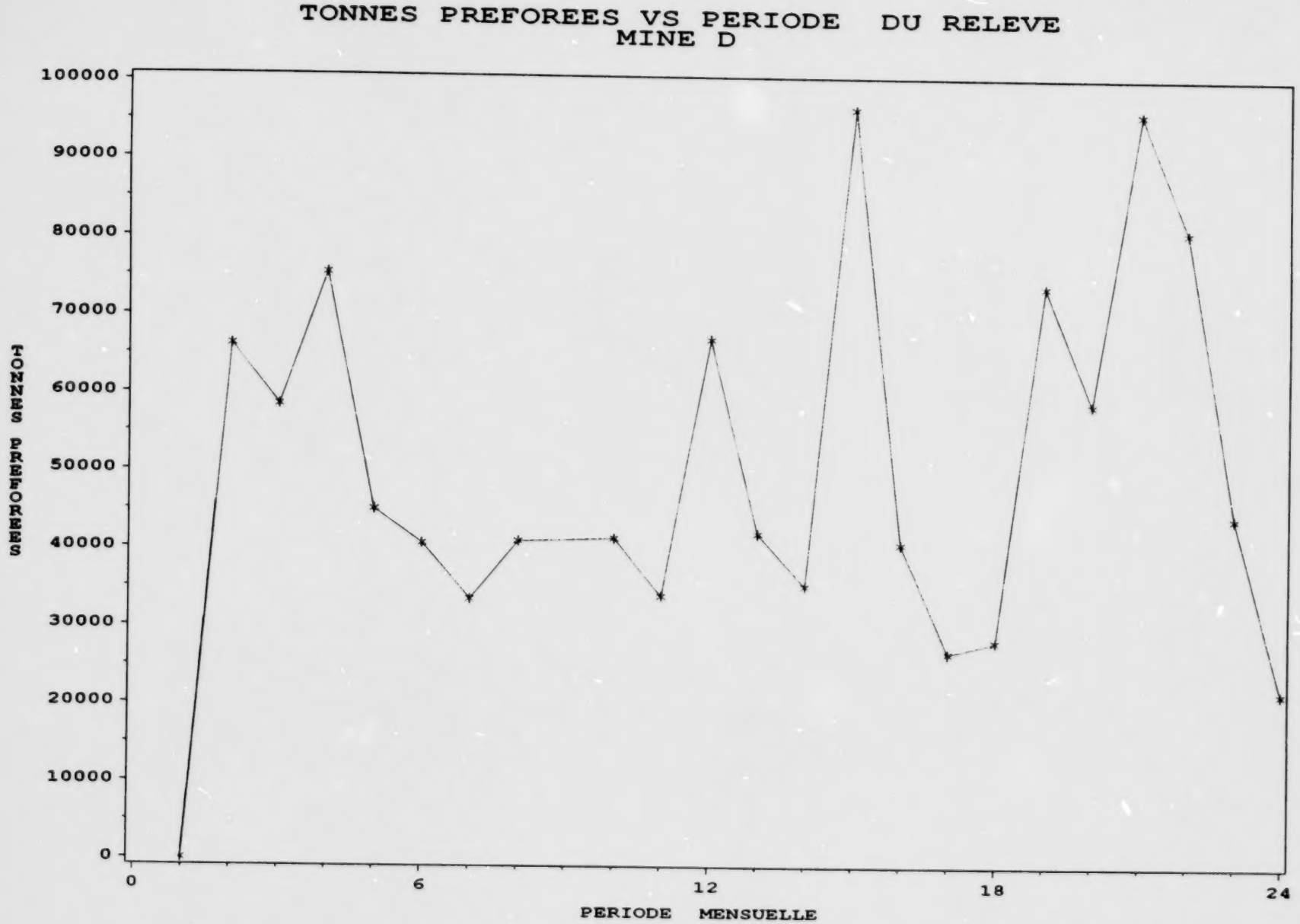
NOTE: DOLLARS CONSTANTS
NOTE: TONNES METRIQUES

FIGURE C.21



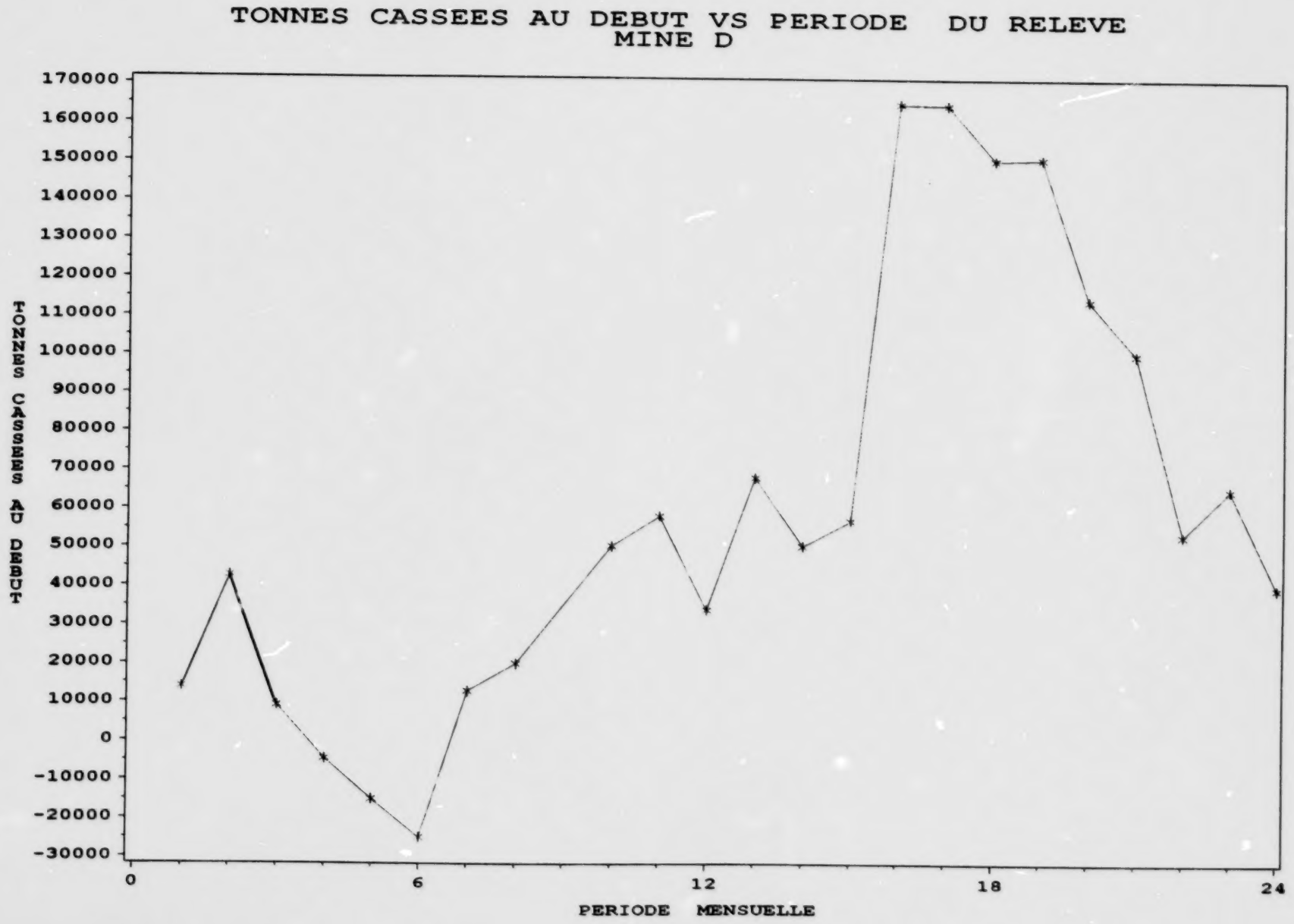
NOTE: TONNES COURTES

FIGURE D.1



NOTE: TONNES COURTES

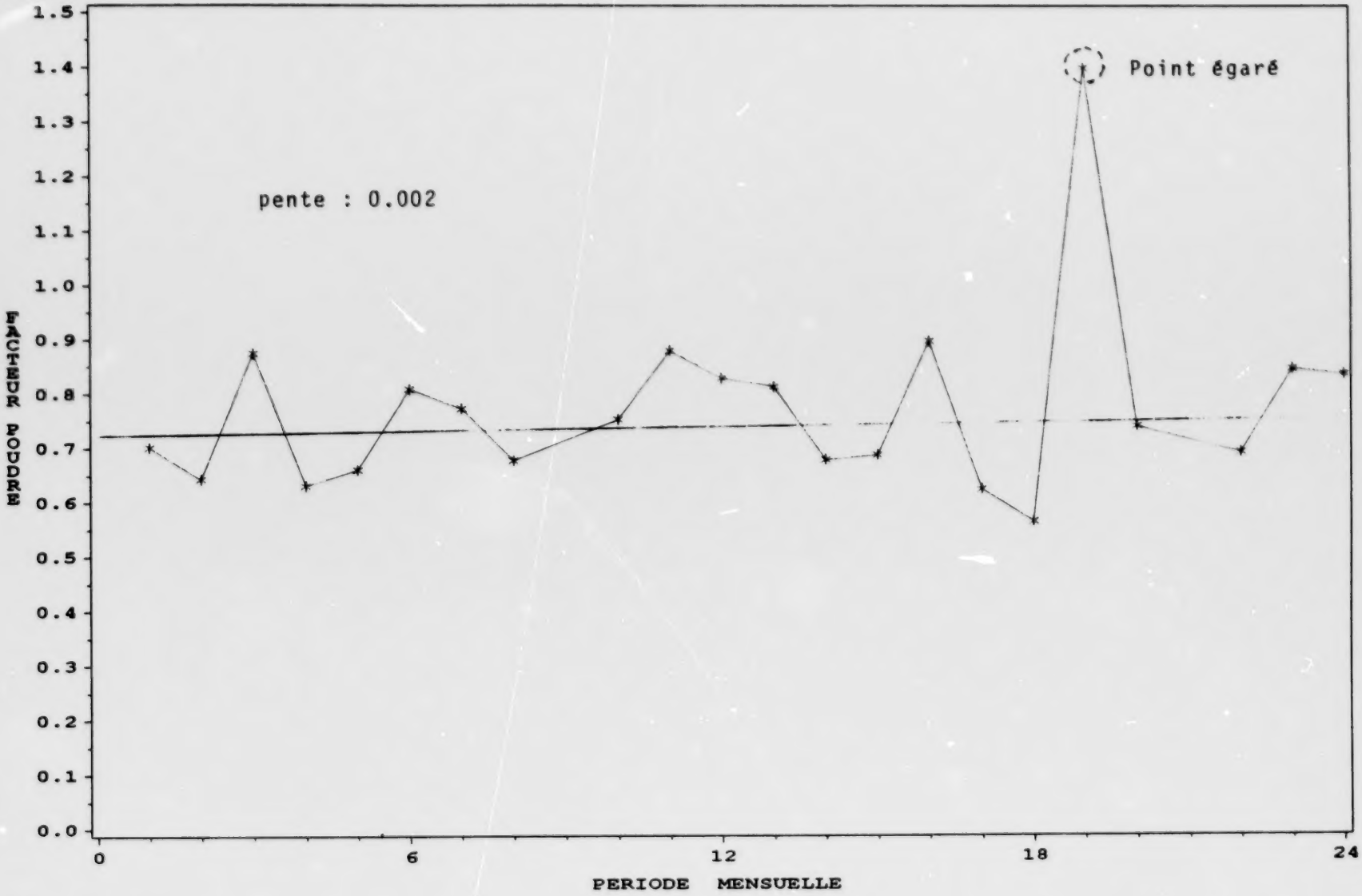
FIGURE D.2



NOTE: TONNES COURTES

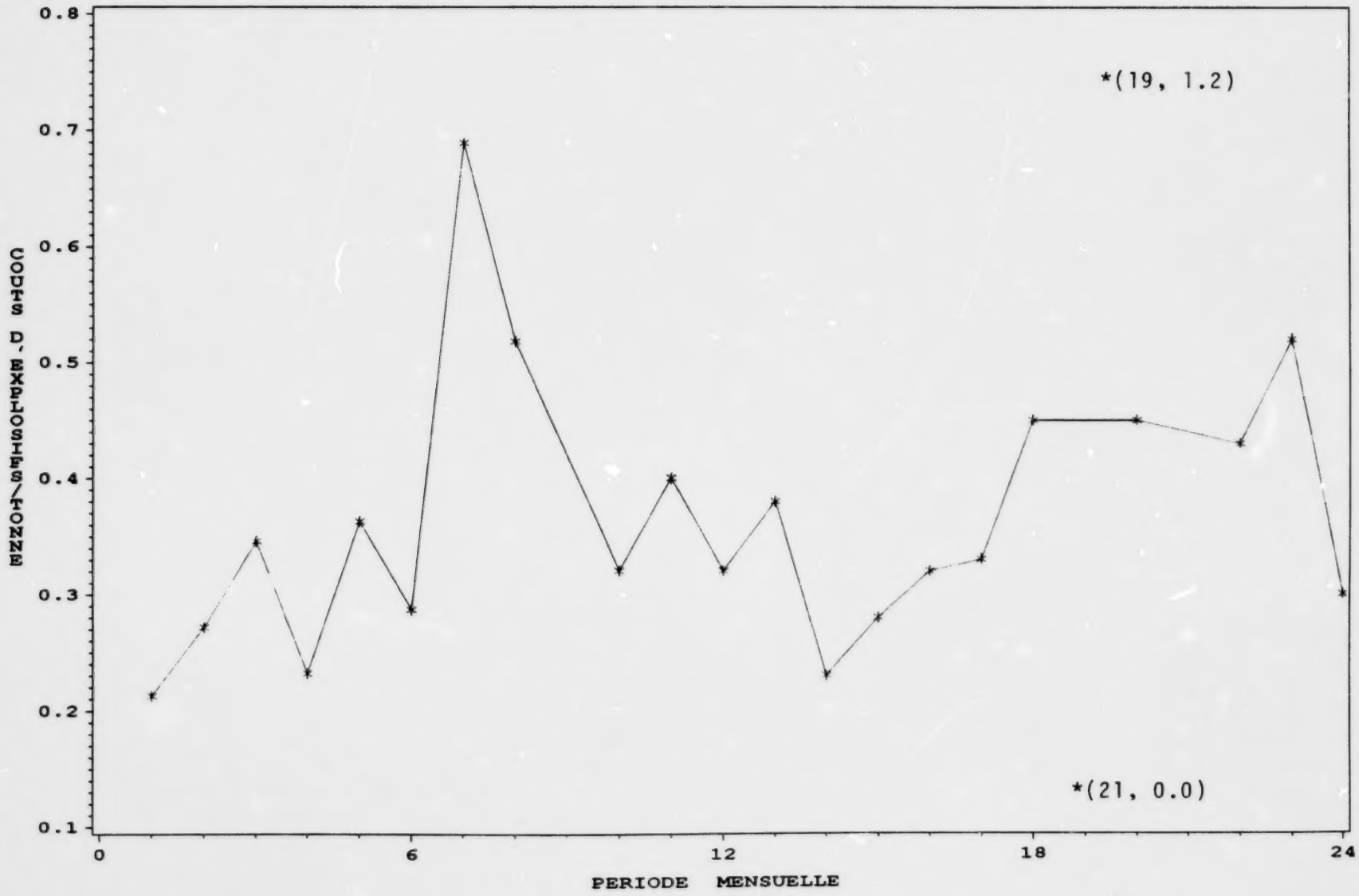
FIGURE D.3

LIVRES D'EXPLOSIFS/TONNE VS PERIODE DU RELEVE
MINE D



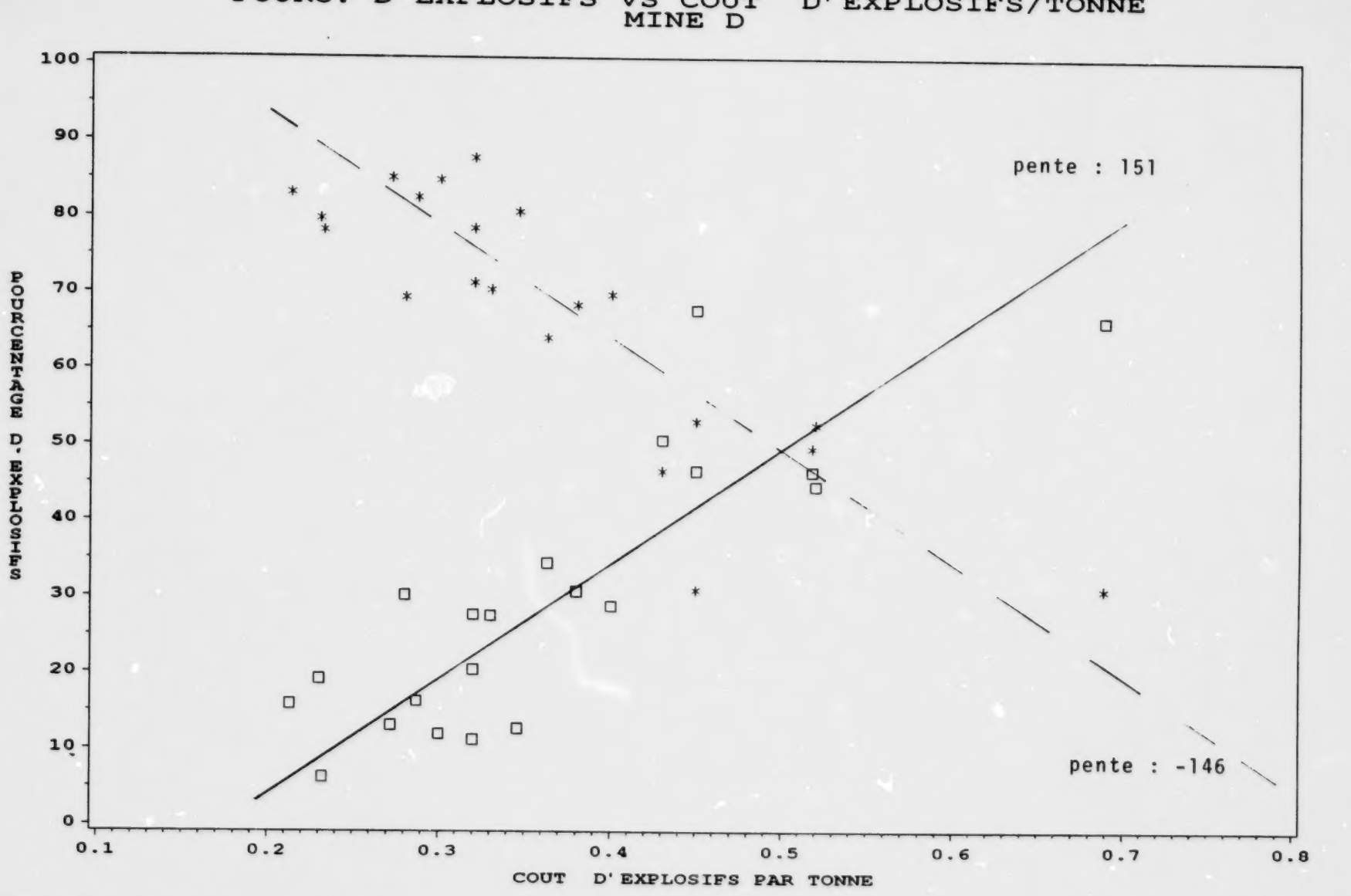
NOTE: TONNES COURTES

FIGURE D.4



NOTE: TONNES COURTES

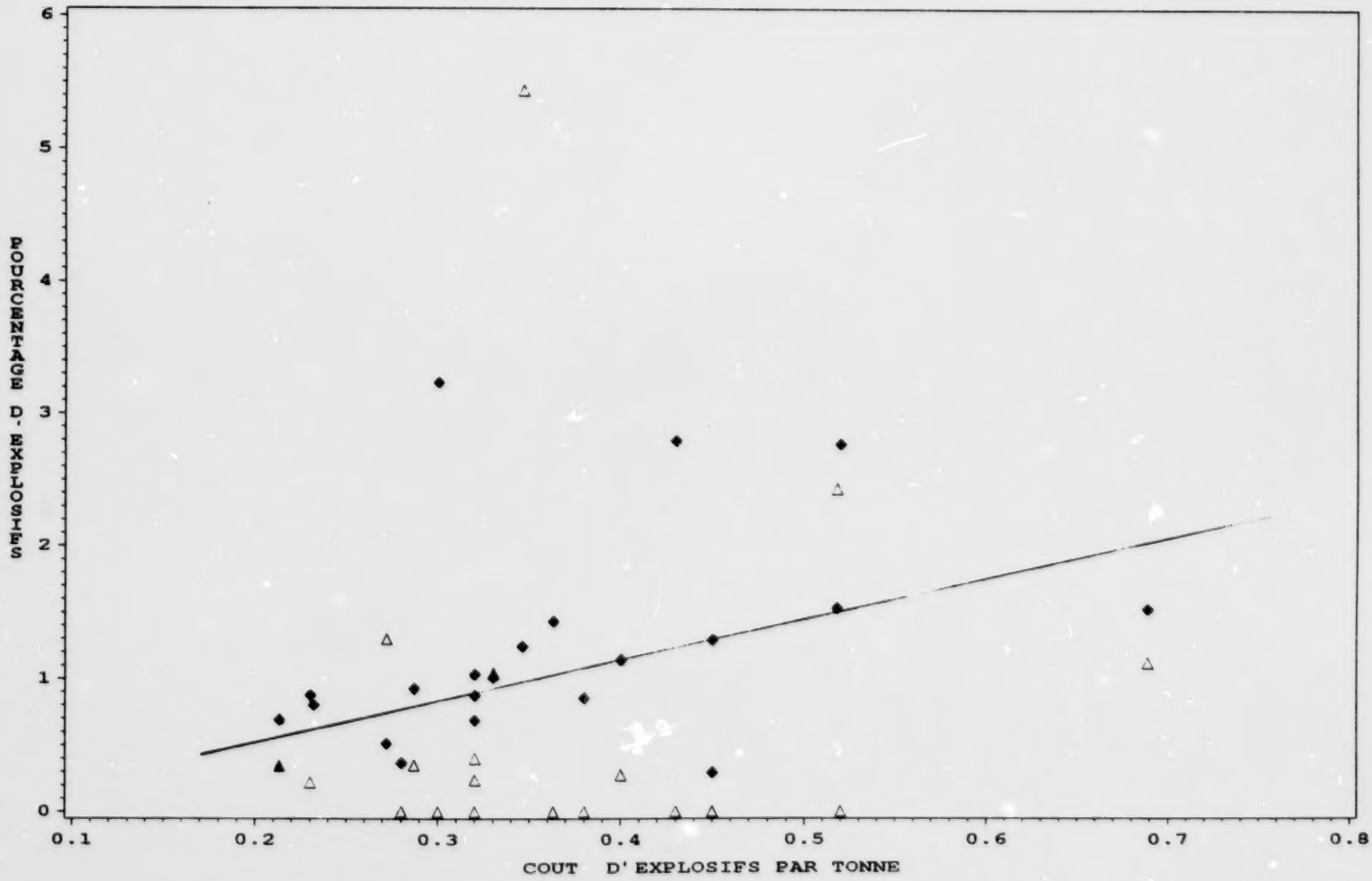
FIGURE D.5



ETOILE: % DE ANFO
CARRE: % DE TOVEX

NOTE: TONNES COURTES

FIGURE D.6

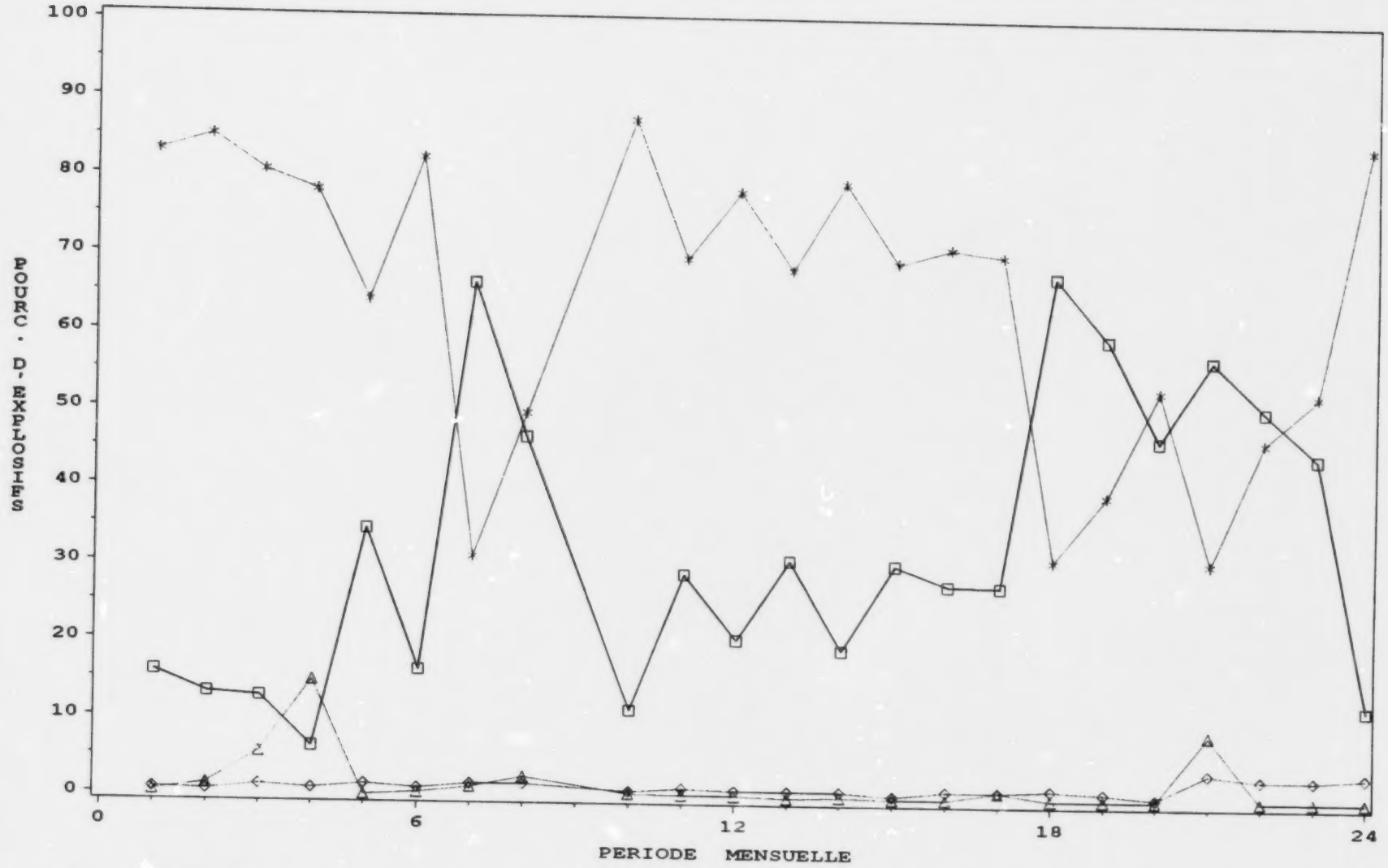


LOSANGE: % DE CORDETS
TRIANGLE: % DE BATONS

NOTE: TONNES COURTES

FIGURE D.7

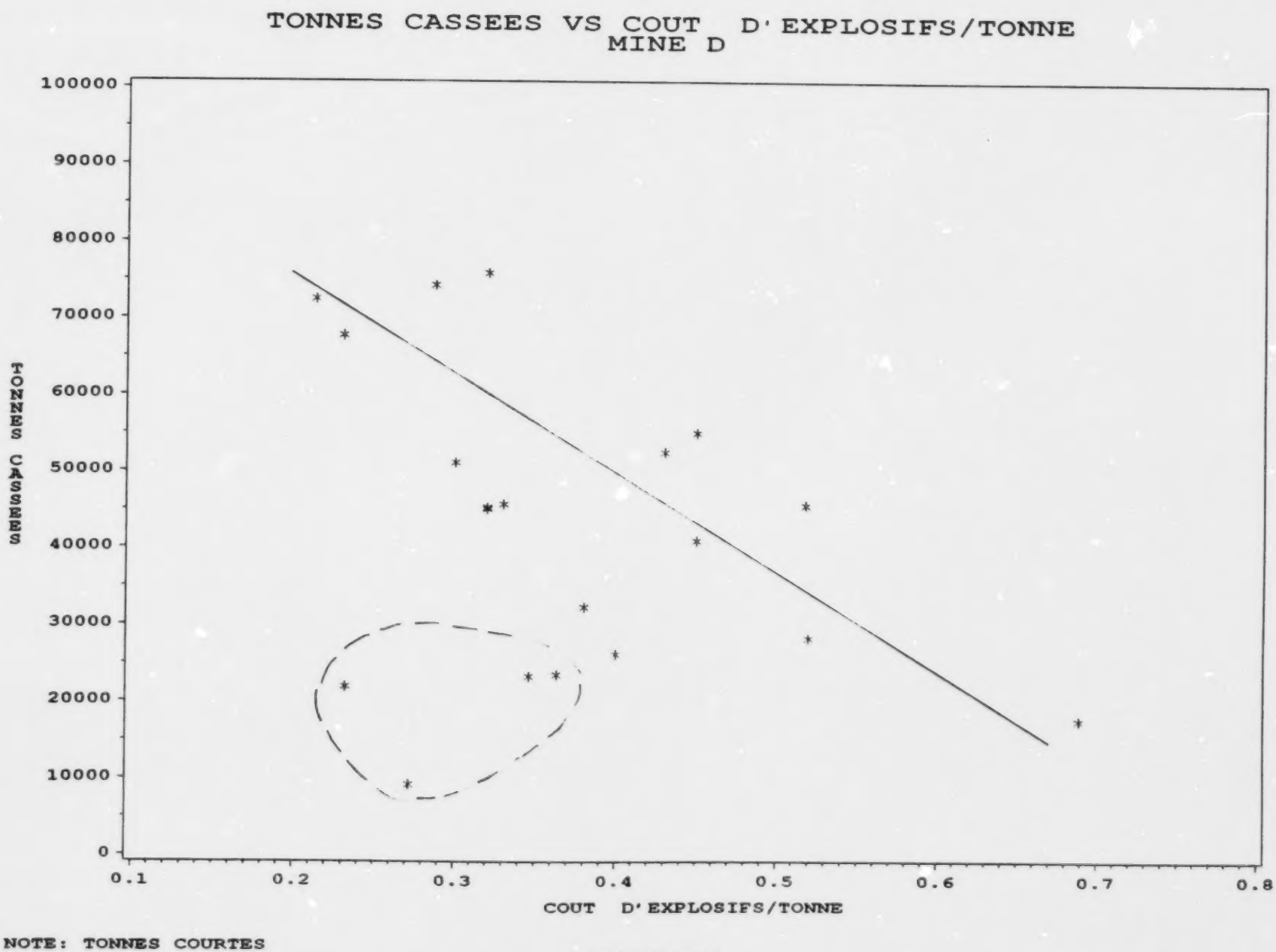
POURCENTAGE D'EXPLOSIFS VS PERIODE DU RELEVE
MINE D



ETOILE : % DE ANFO
CARRE : % DE TOVEX
LOSANGE : % DE CORDETS
TRIANGLE: % DE BATONS

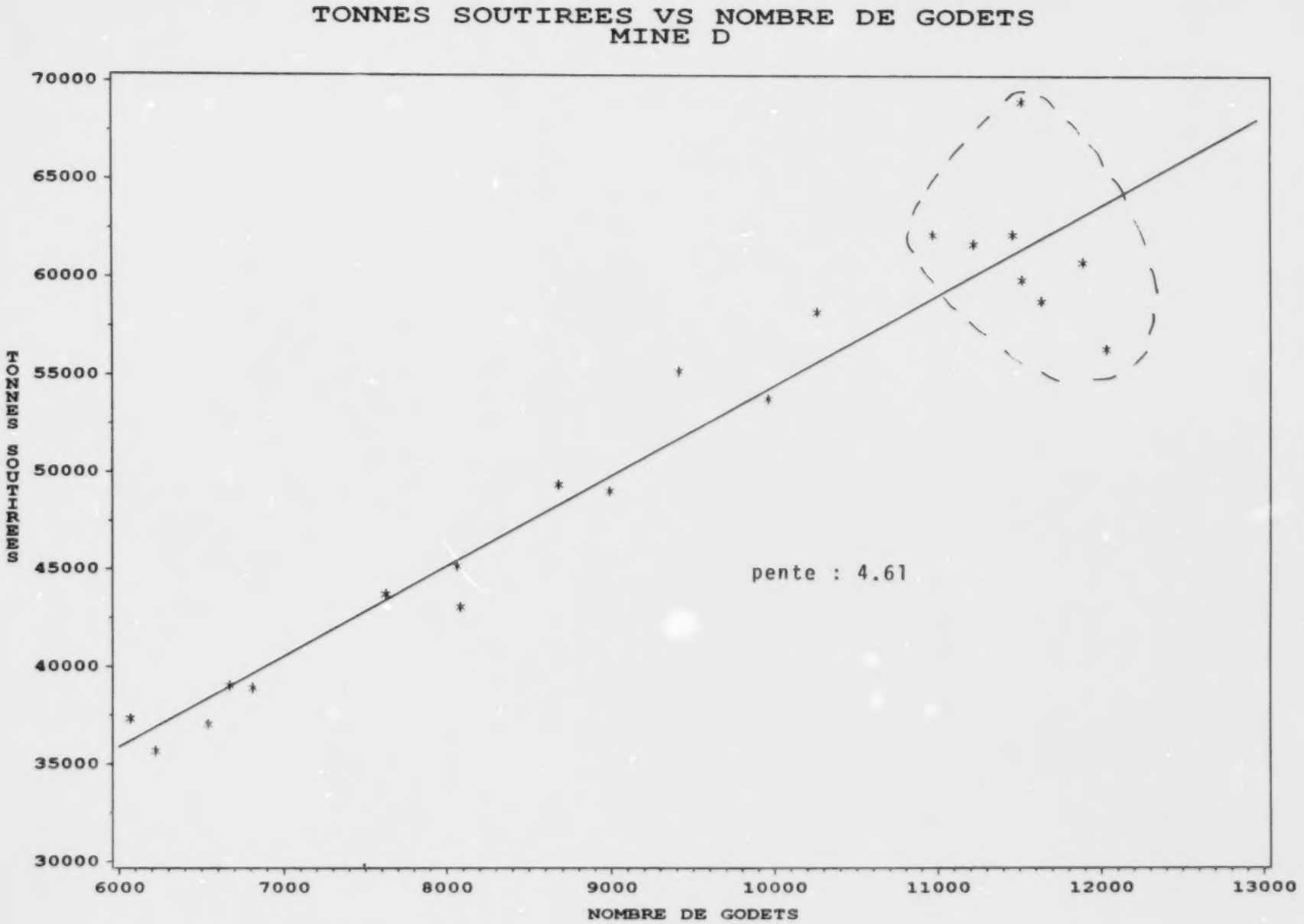
FIGURE D.8

NOTE: TONNES COURTES



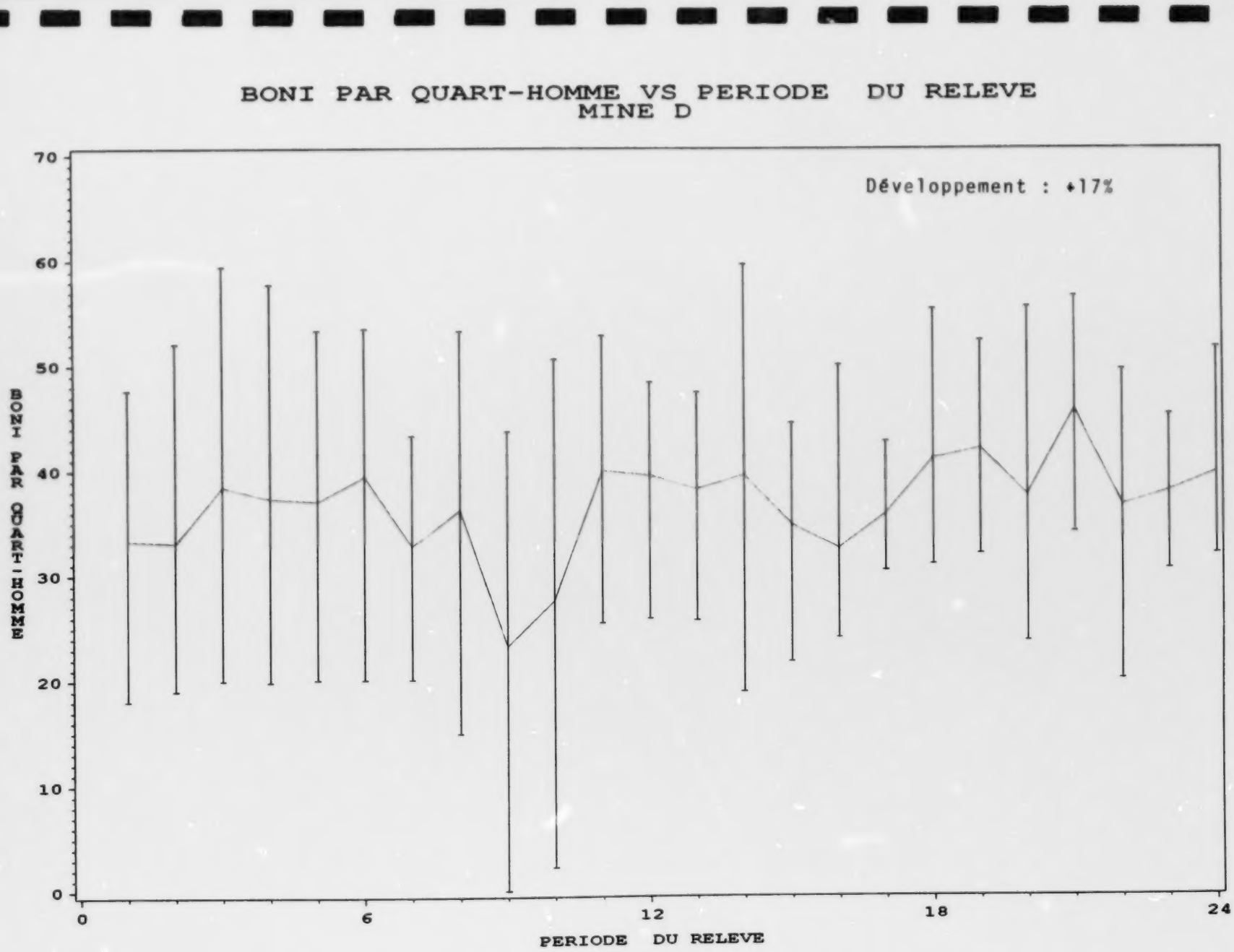
NOTE: TONNES COURTES

FIGURE D.9



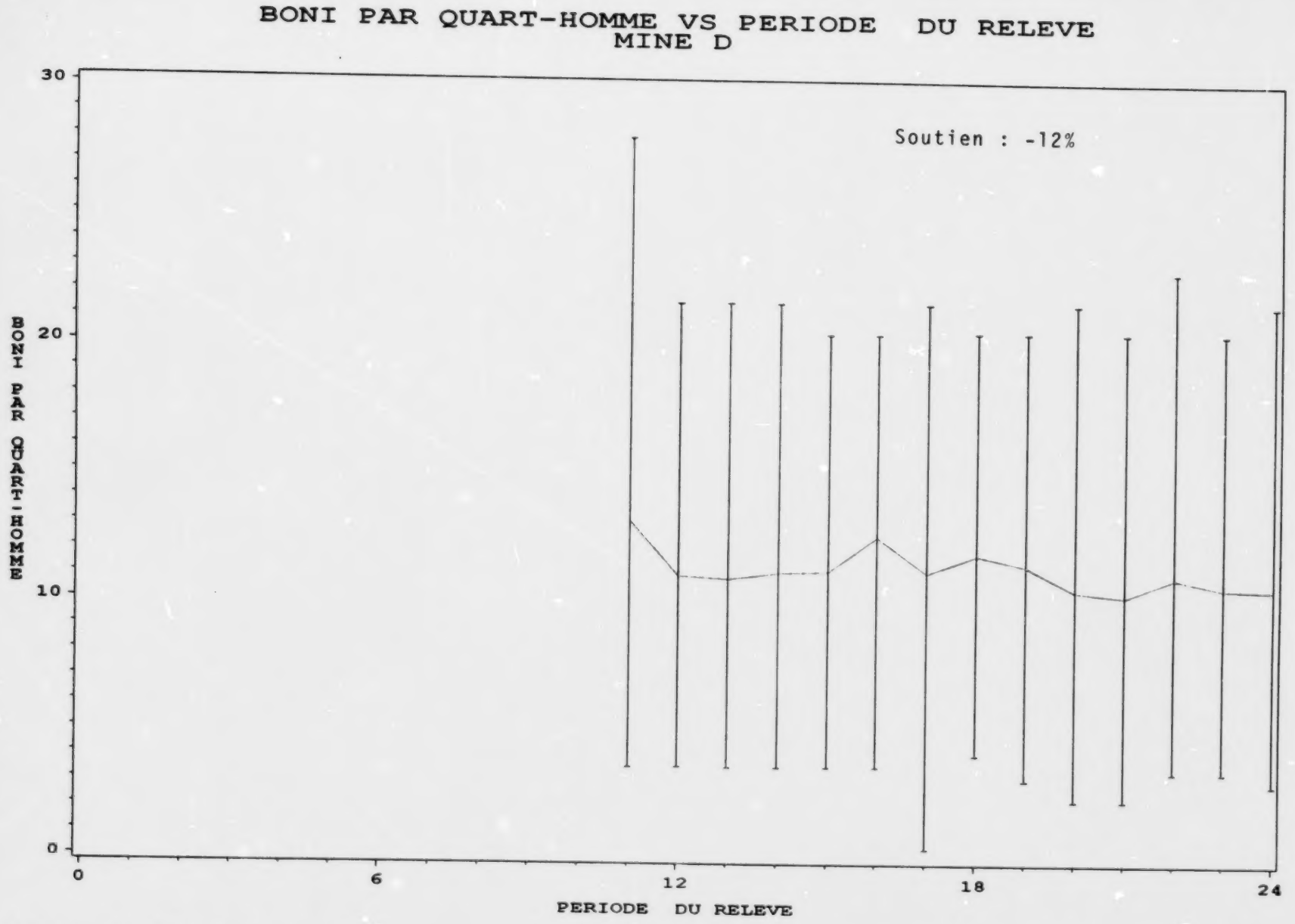
NOTE: TONNES COURTES

FIGURE D.10



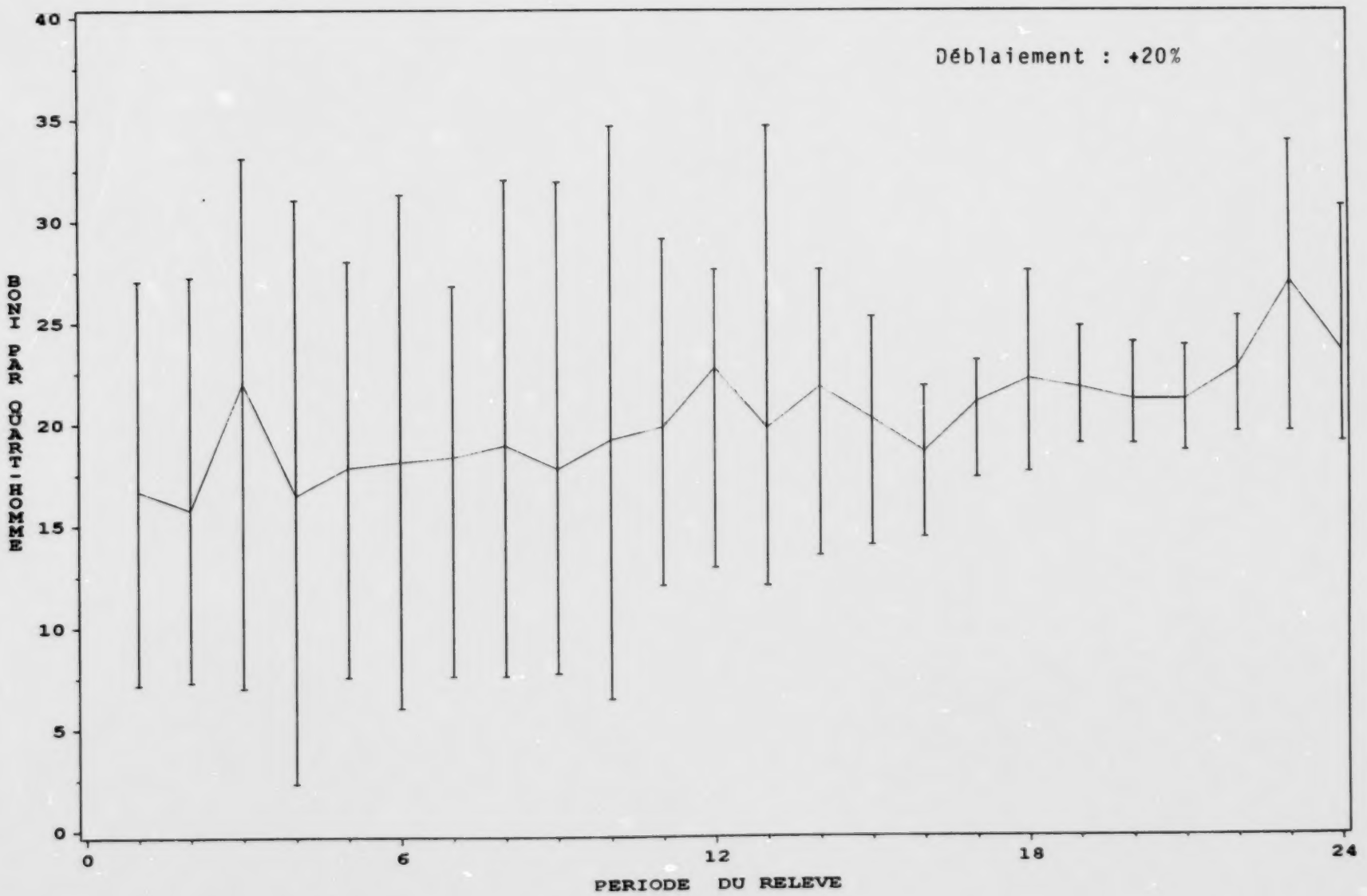
TYPE DE FEUILLE DE CONTRAT:1

FIGURE D.11



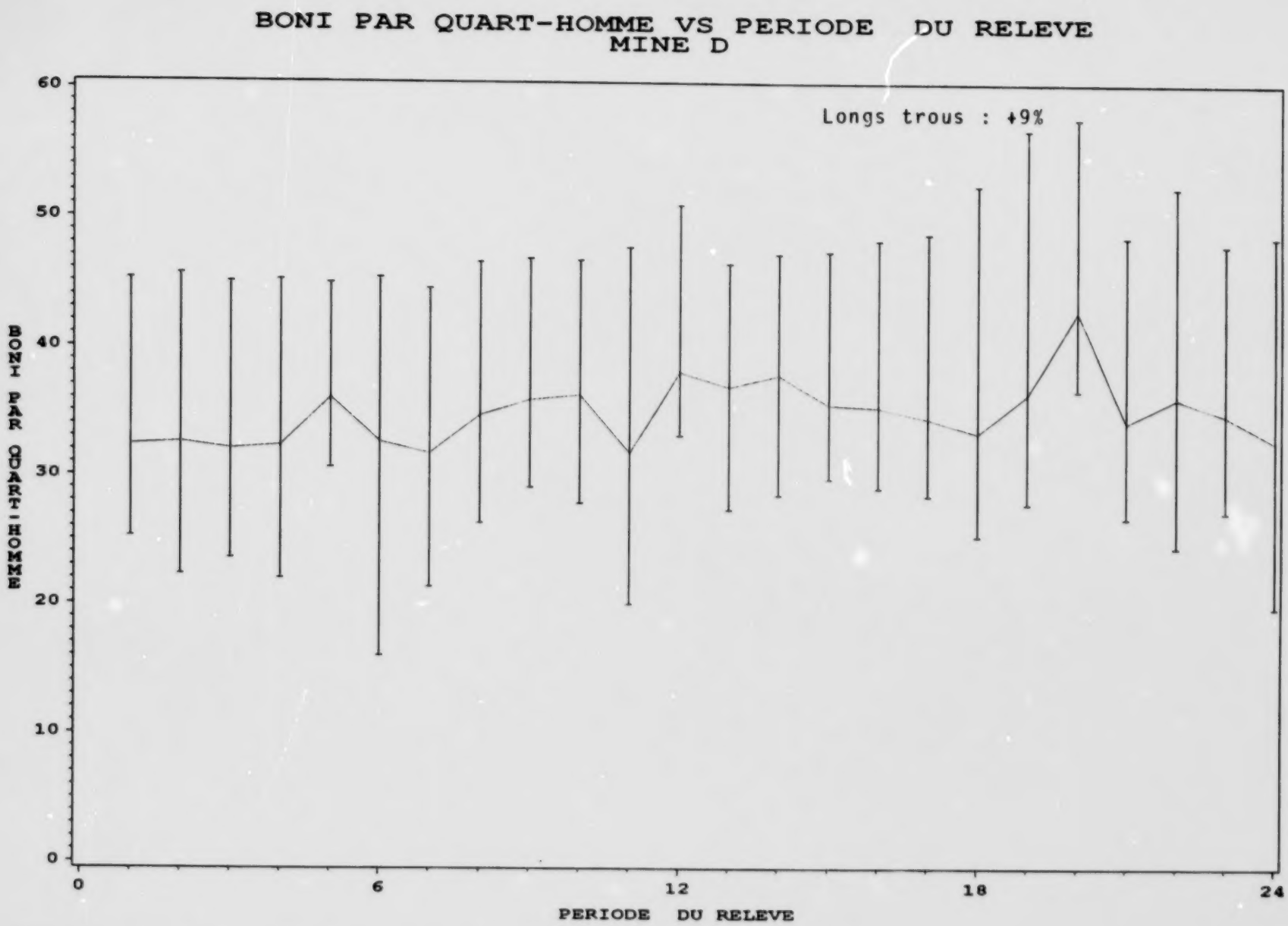
TYPE DE FEUILLE DE CONTRAT:2

FIGURE D.12



TYPE DE FEUILLE DE CONTRAT:3

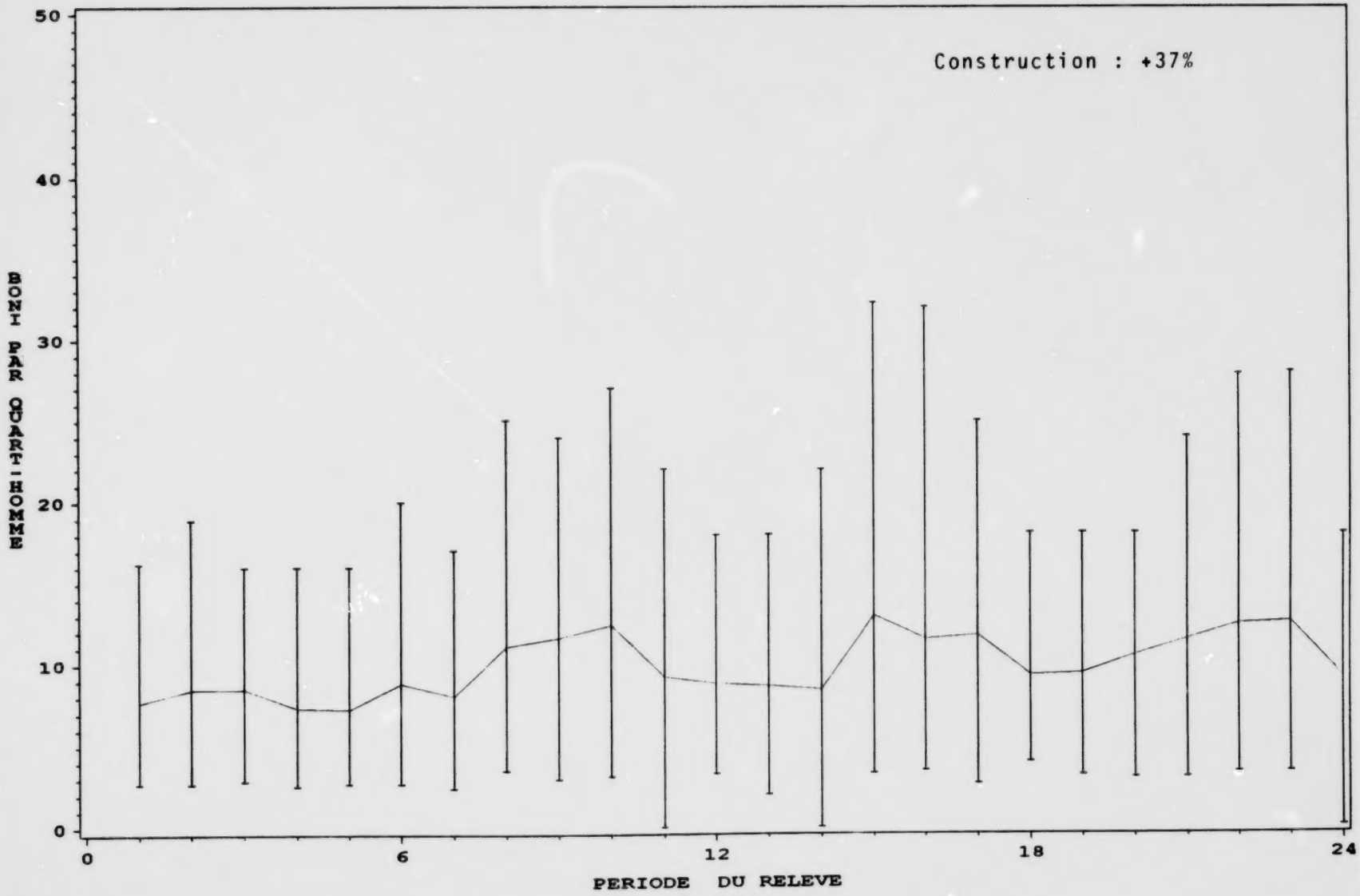
FIGURE D.13



TYPE DE FEUILLE DE CONTRAT:4

FIGURE D.14

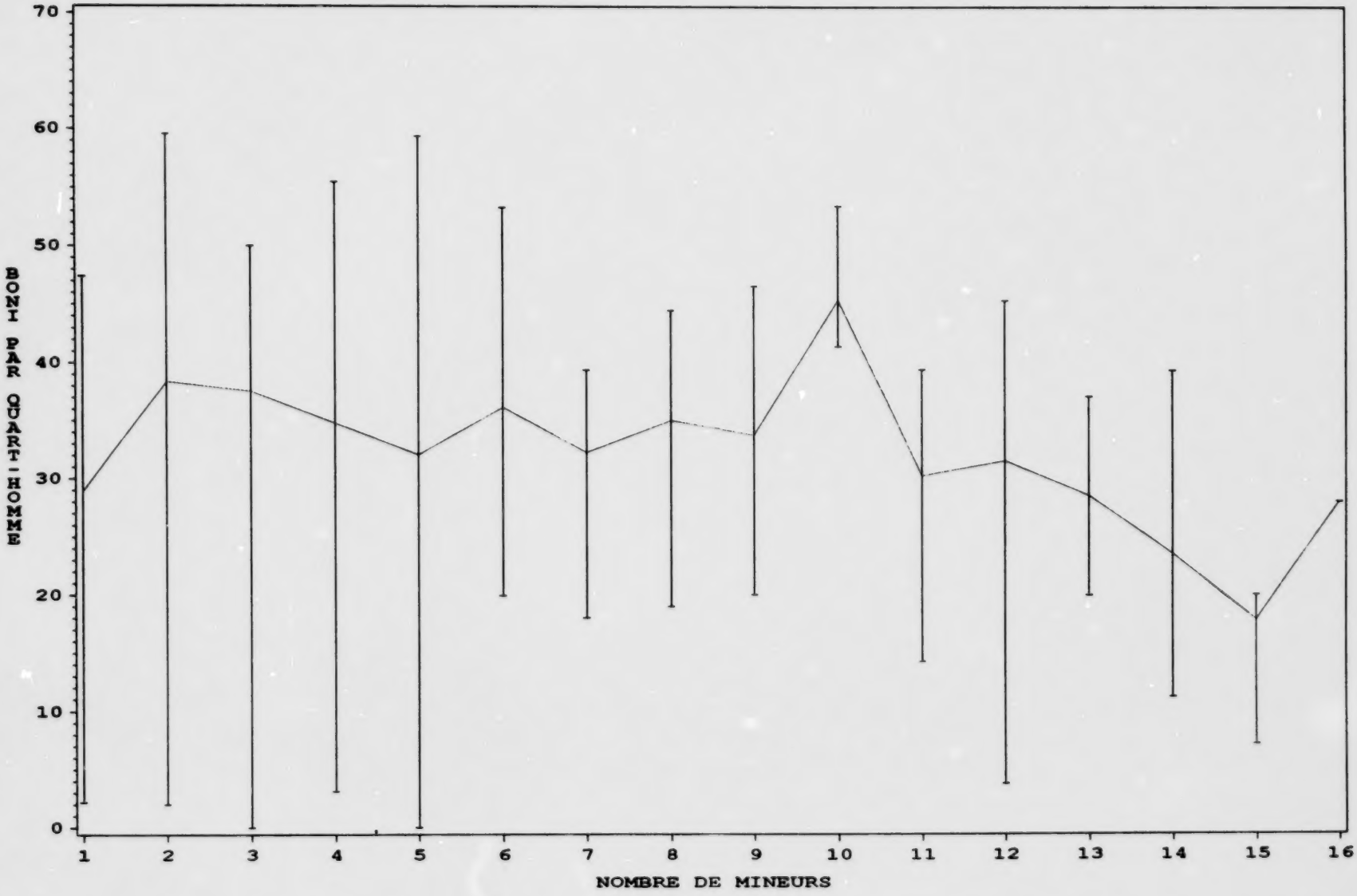
BONI PAR QUART-HOMME VS PERIODE DU RELEVE
MINE D



TYPE DE FEUILLE DE CONTRAT:5

FIGURE D.15

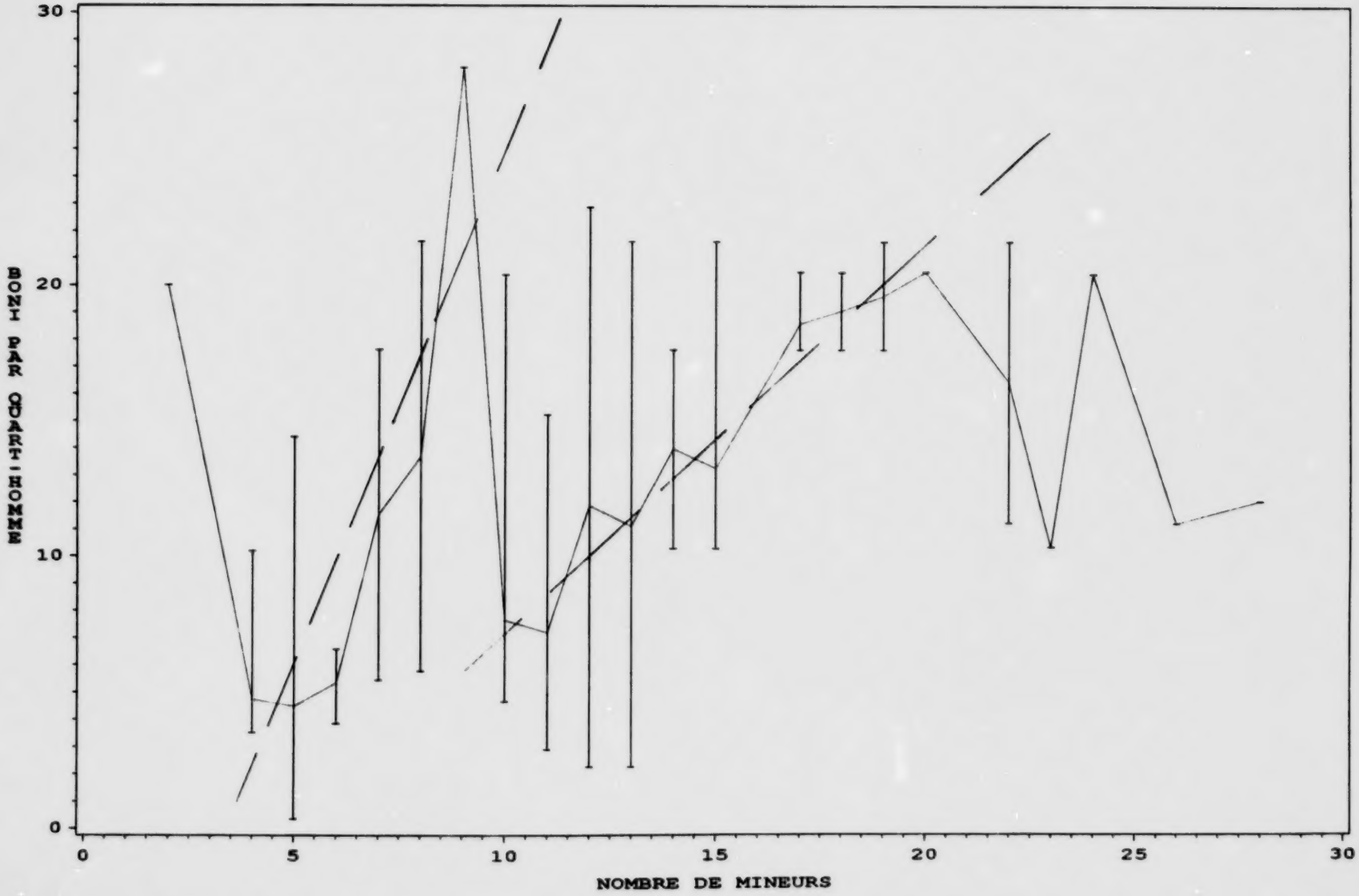
BONI PAR QUART-HOMME VS NOMBRE DE MINEURS
MINE D



TYPE DE FEUILLE DE CONTRAT:1

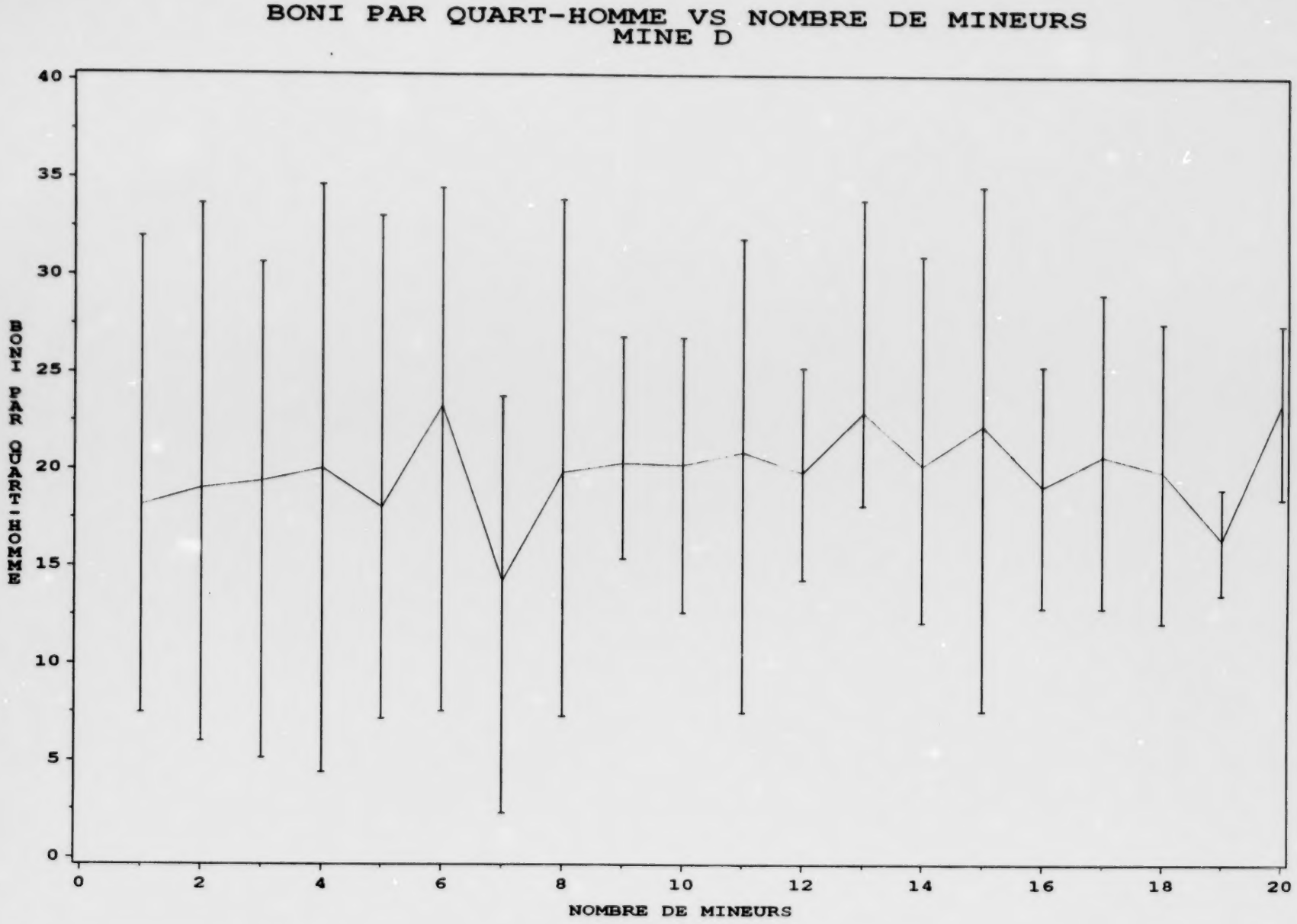
FIGURE D.16

BONI PAR QUART-HOMME VS NOMBRE DE MINEURS
MINE D



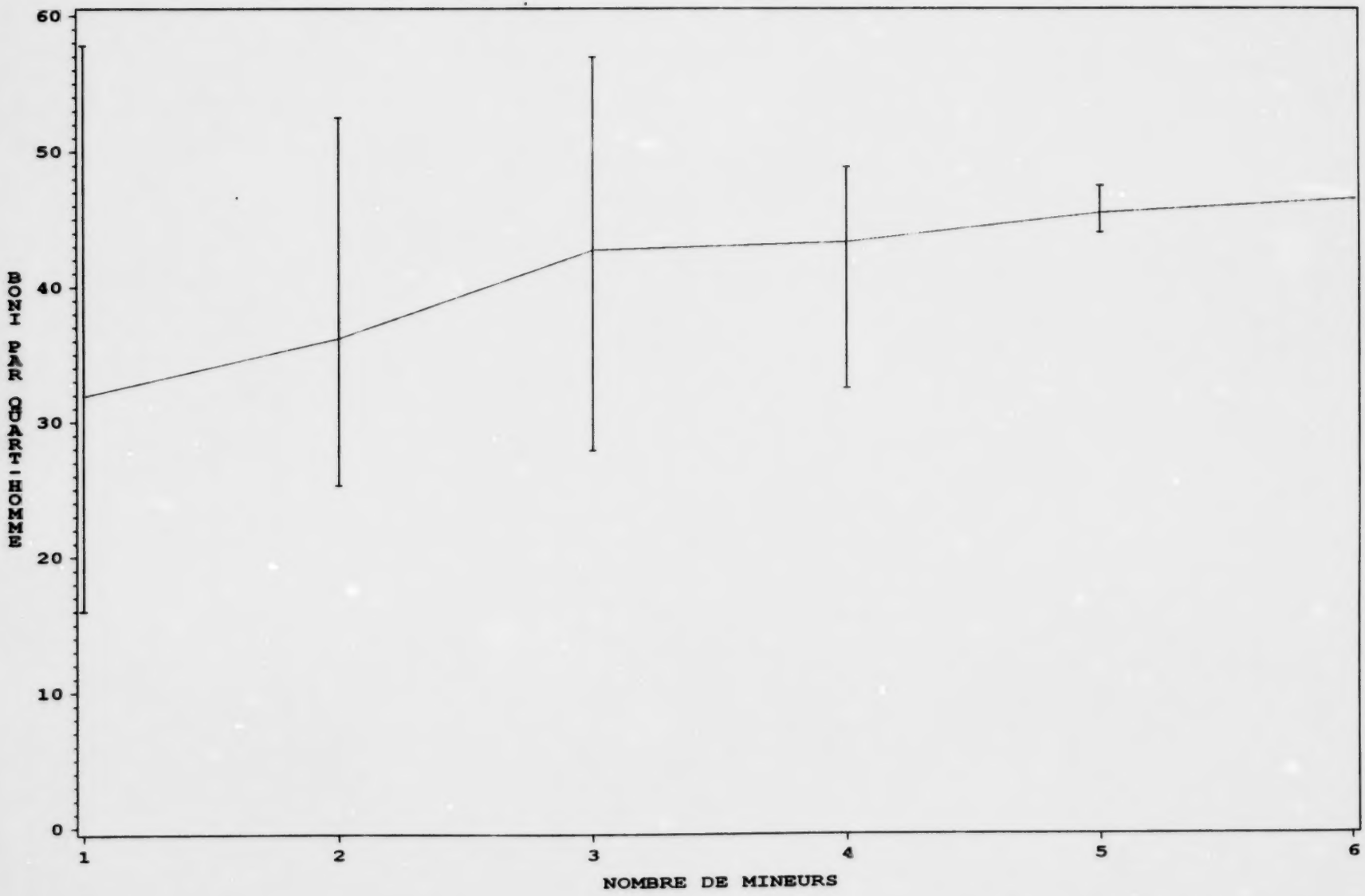
TYPE DE FEUILLE DE CONTRAT:2

FIGURE D.17



TYPE DE FEUILLE DE CONTRAT:3

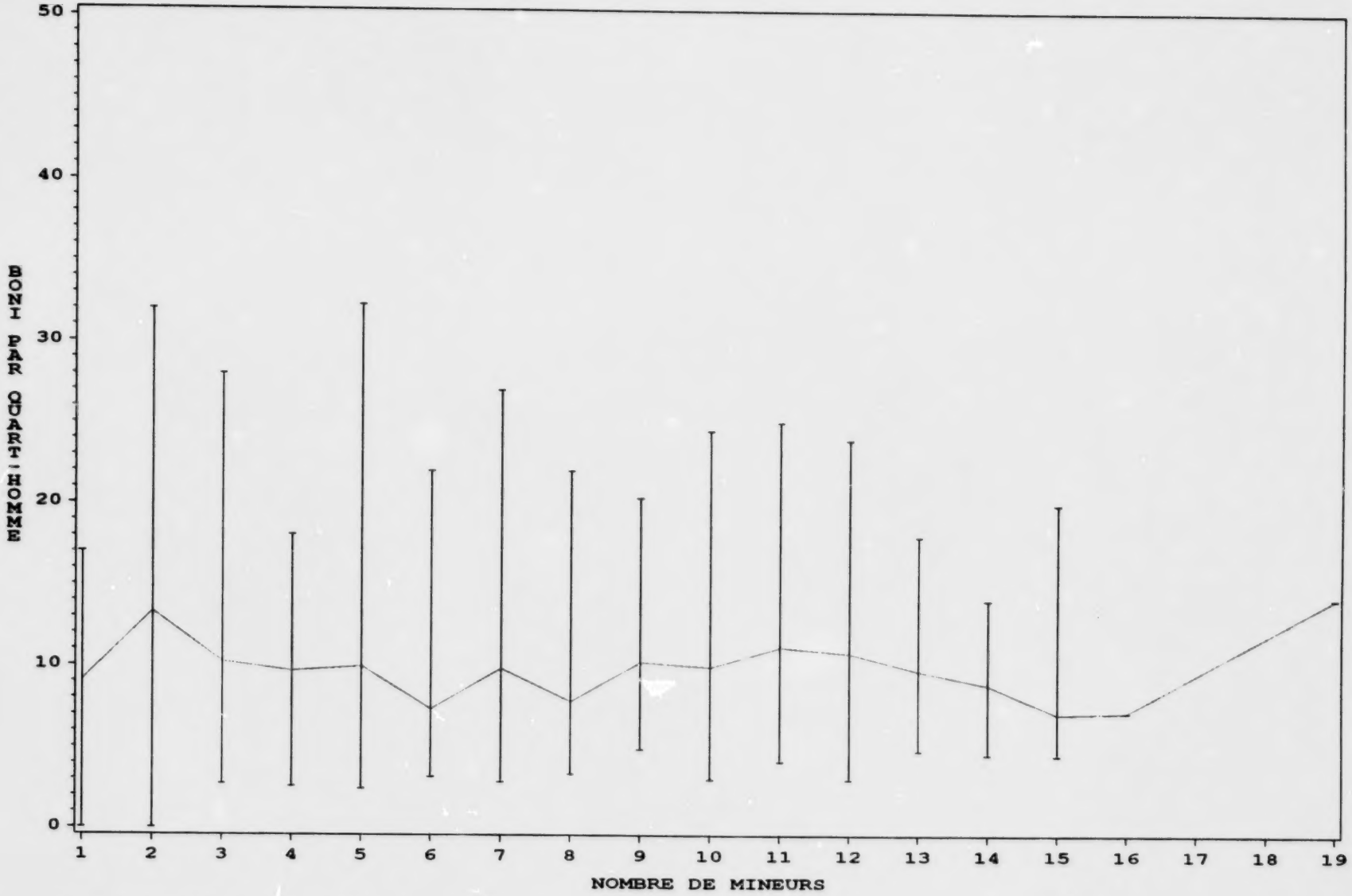
FIGURE D.18



TYPE DE FEUILLE DE CONTRAT: 4

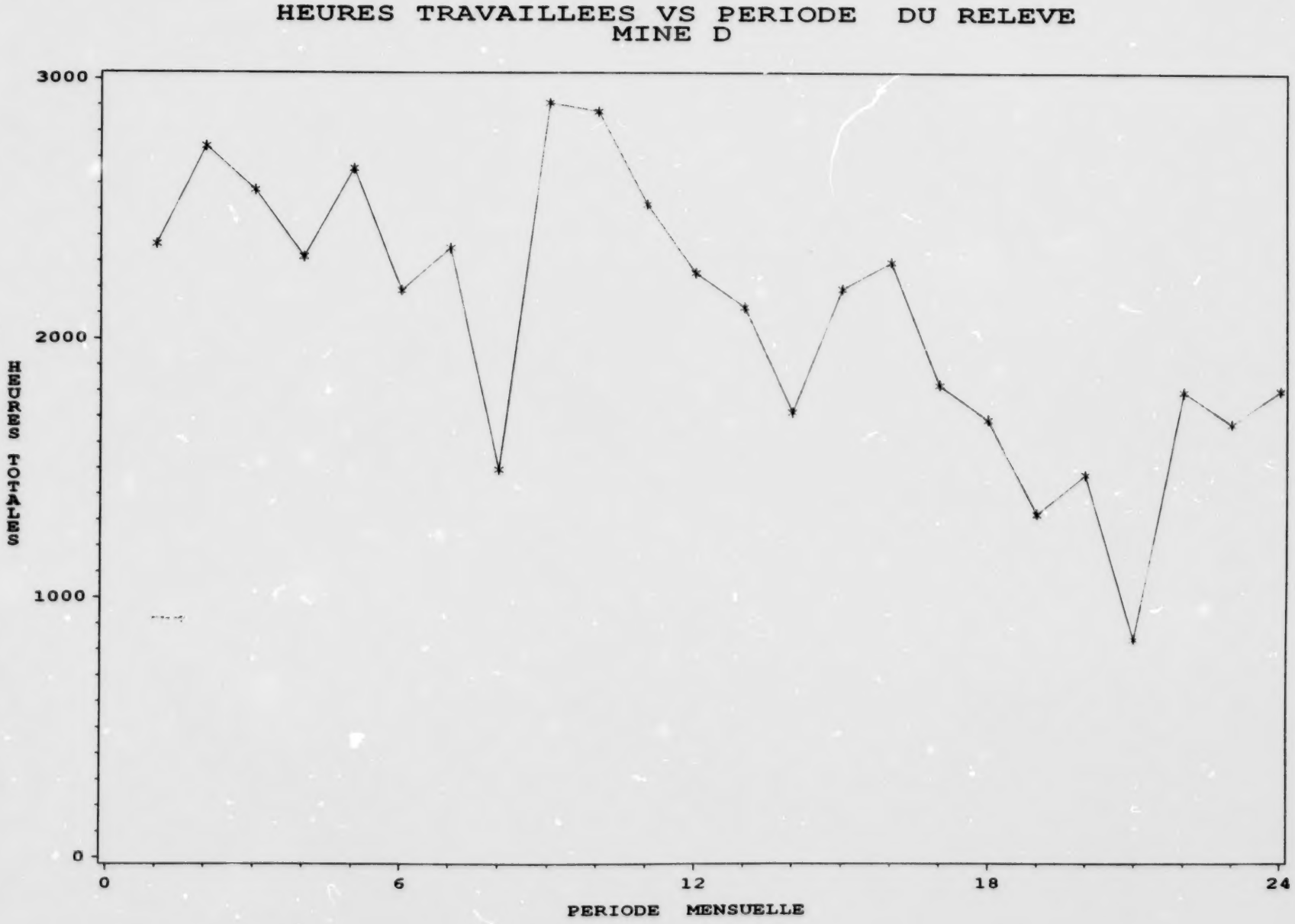
FIGURE D.19

BONI PAR QUART-HOMME VS NOMBRE DE MINEURS
MINE D



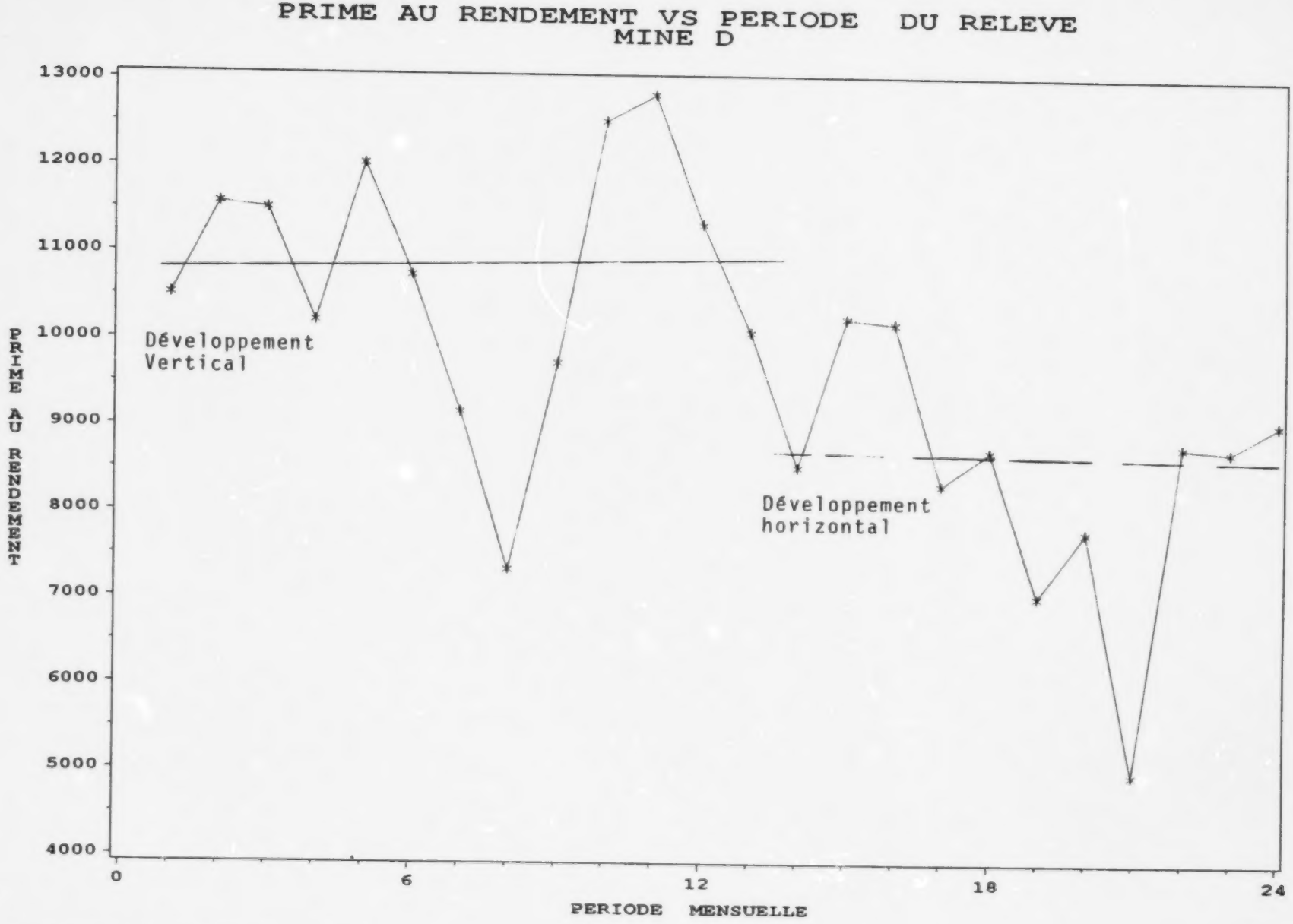
TYPE DE FEUILLE DE CONTRAT:5

FIGURE D.20



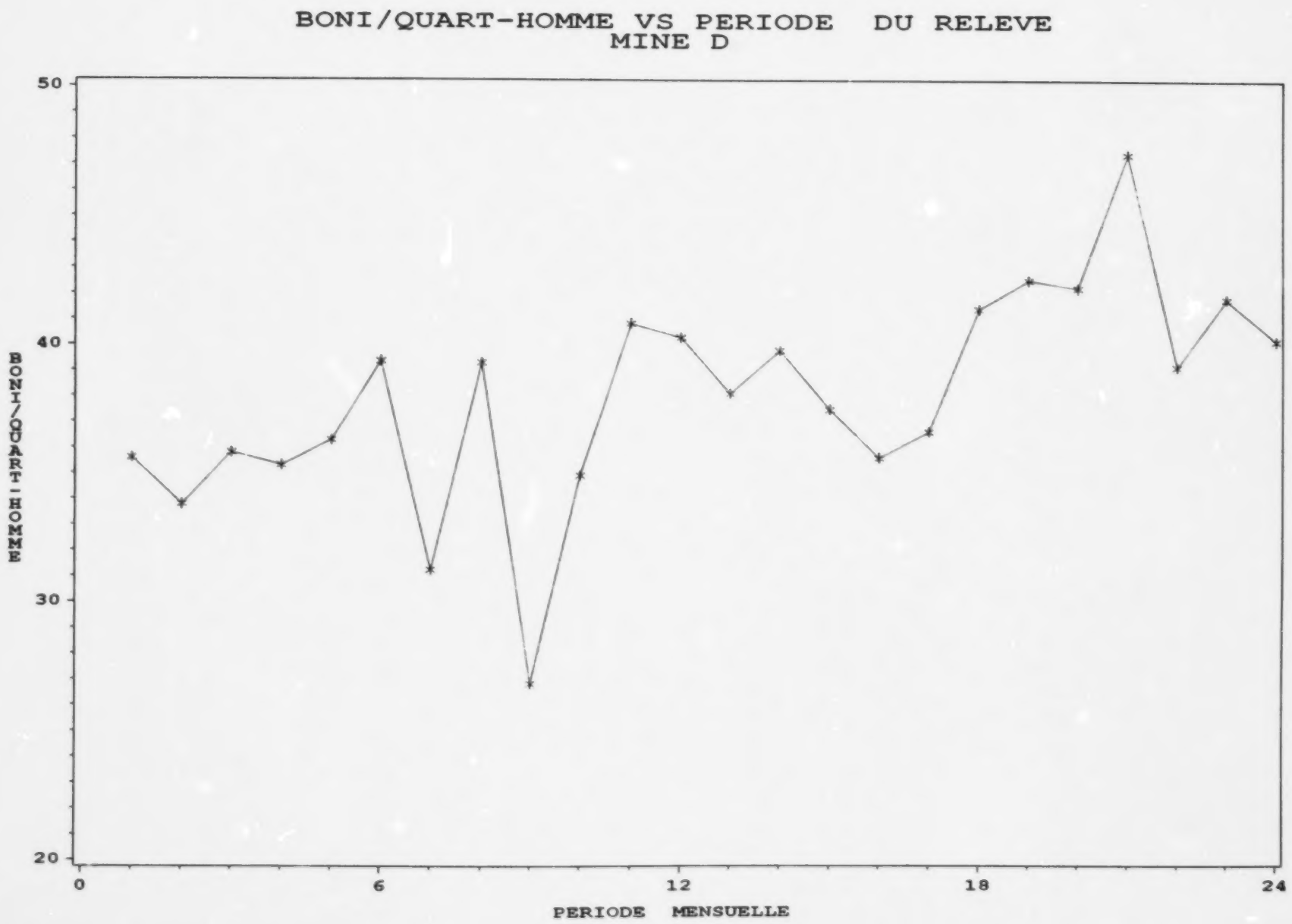
TYPE DE FEUILLE DE CONTRAT:1

FIGURE D.21



TYPE DE FEUILLE DE CONTRAT:1

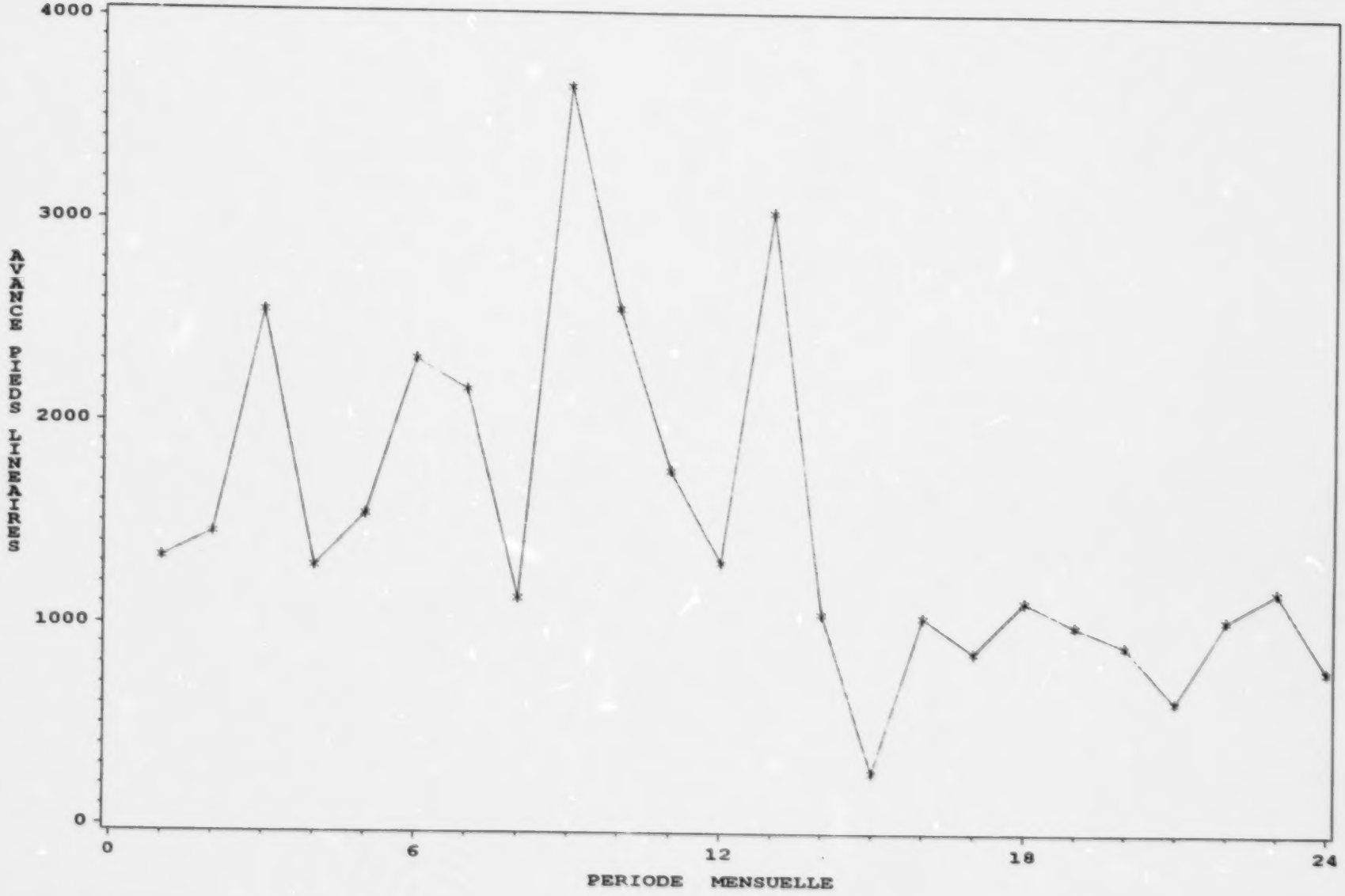
FIGURE D.22



TYPE DE FEUILLE DE CONTRAT:1

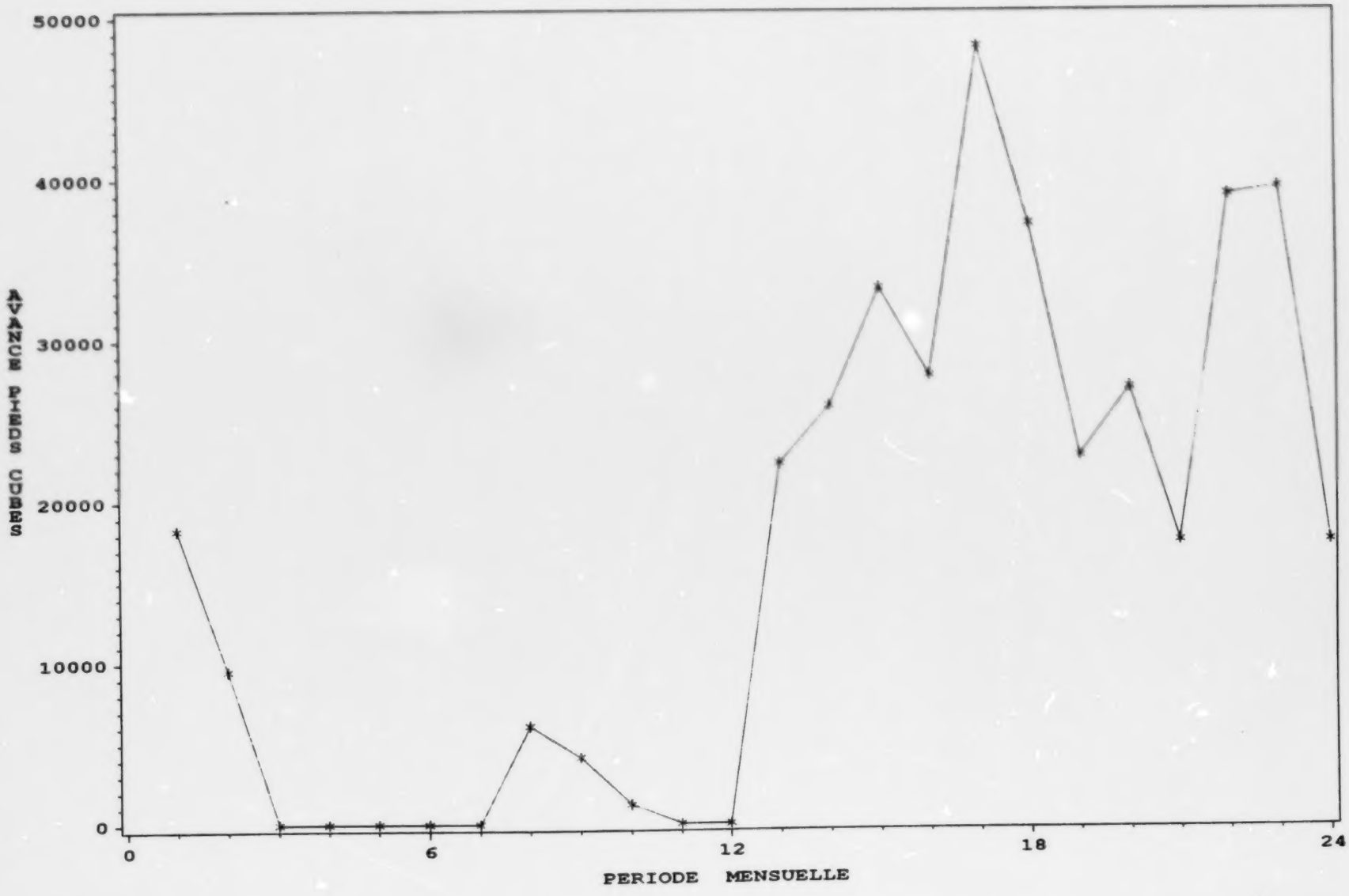
FIGURE D.23

AVANCE PIEDS LINEAIRES VS PERIODE DU RELEVE
MINE D



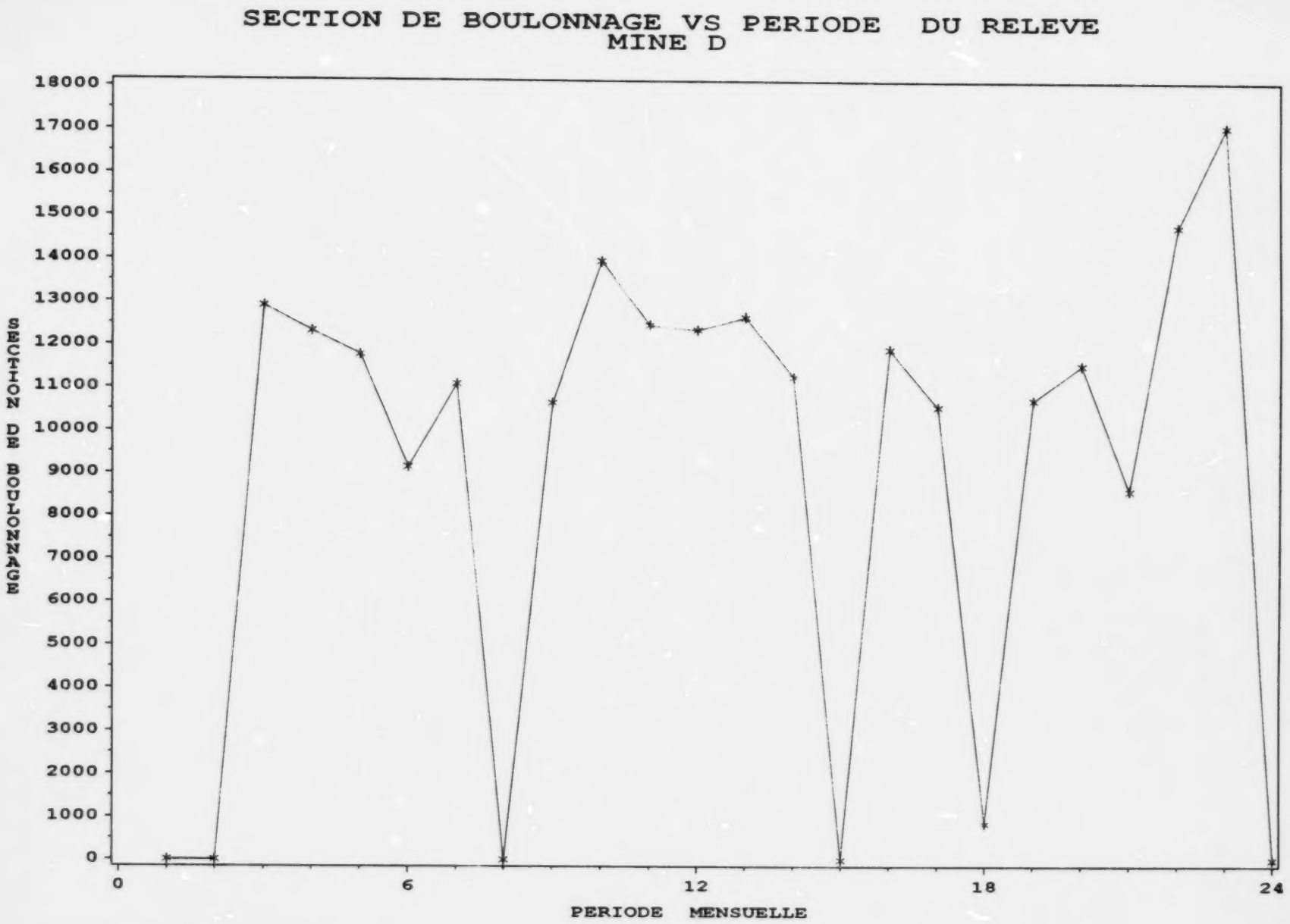
TYPE DE FEUILLE DE CONTRAT:1

FIGURE D.24



TYPE DE FEUILLE DE CONTRAT:1

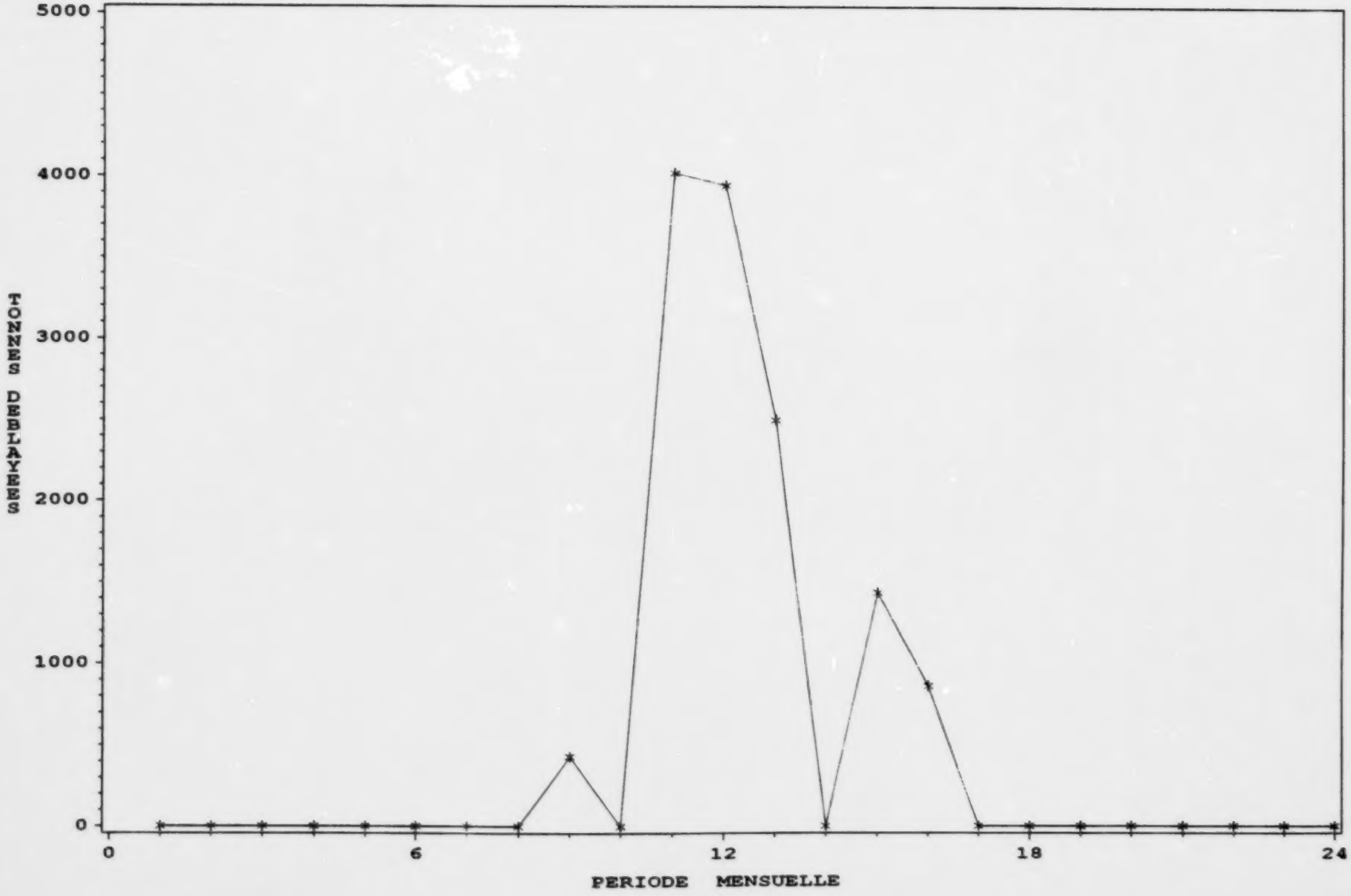
FIGURE D.25



TYPE DE FEUILLE DE CONTRAT:1

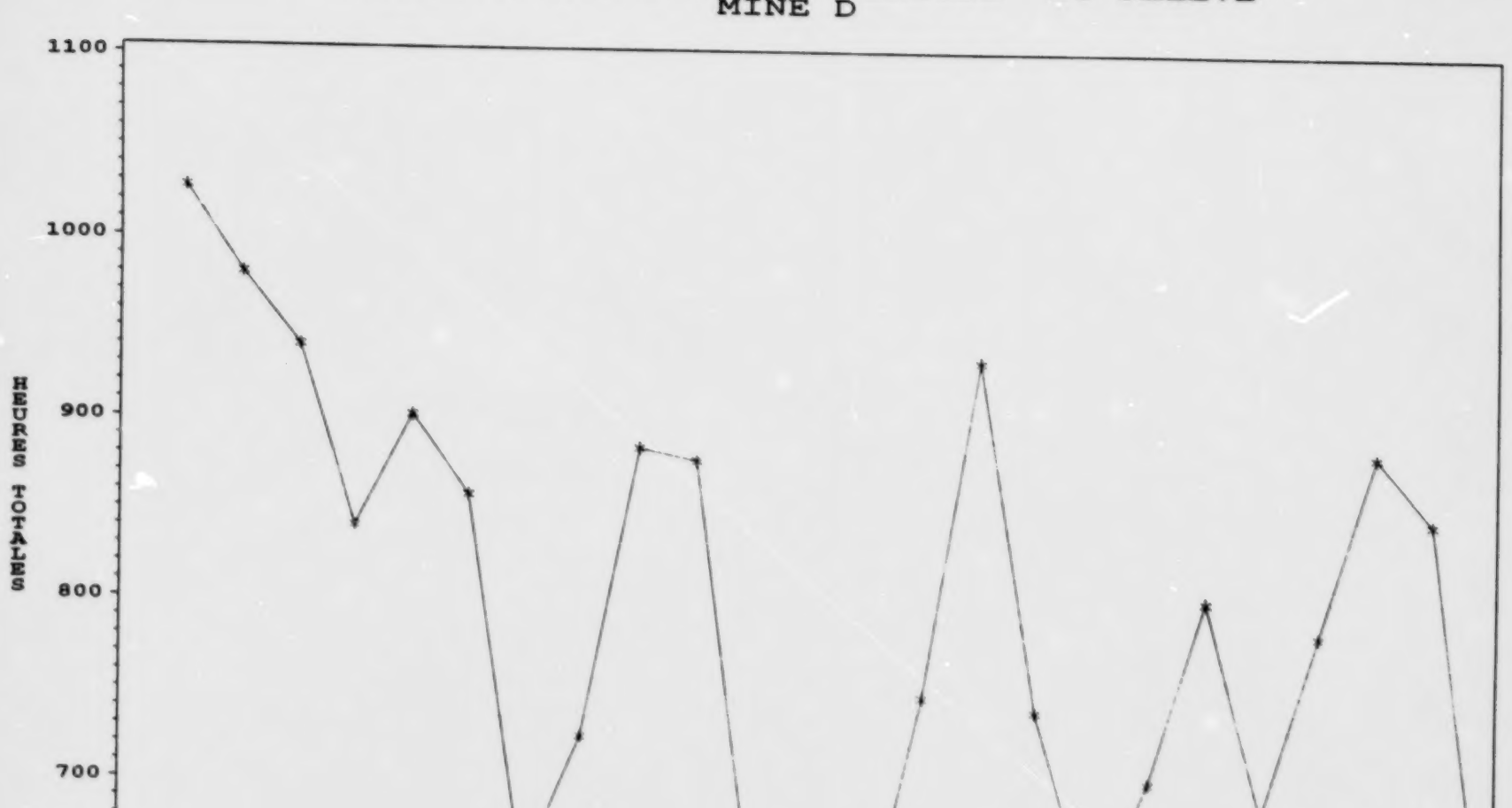
FIGURE D.26

TONNES DEBLAYEES VS PERIODE DU RELEVE
MINE D



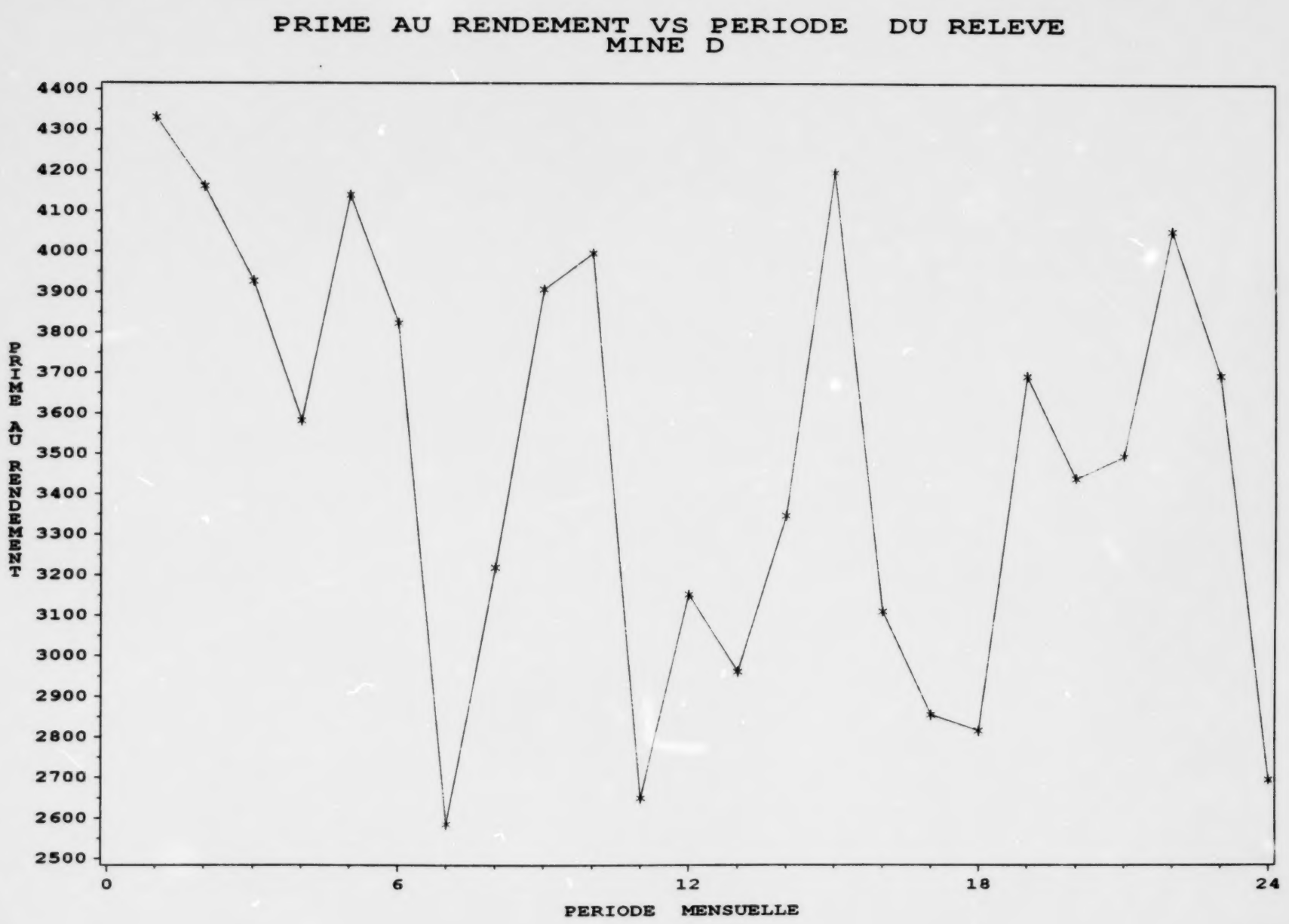
TYPE DE FEUILLE DE CONTRAT:1

FIGURE D.27



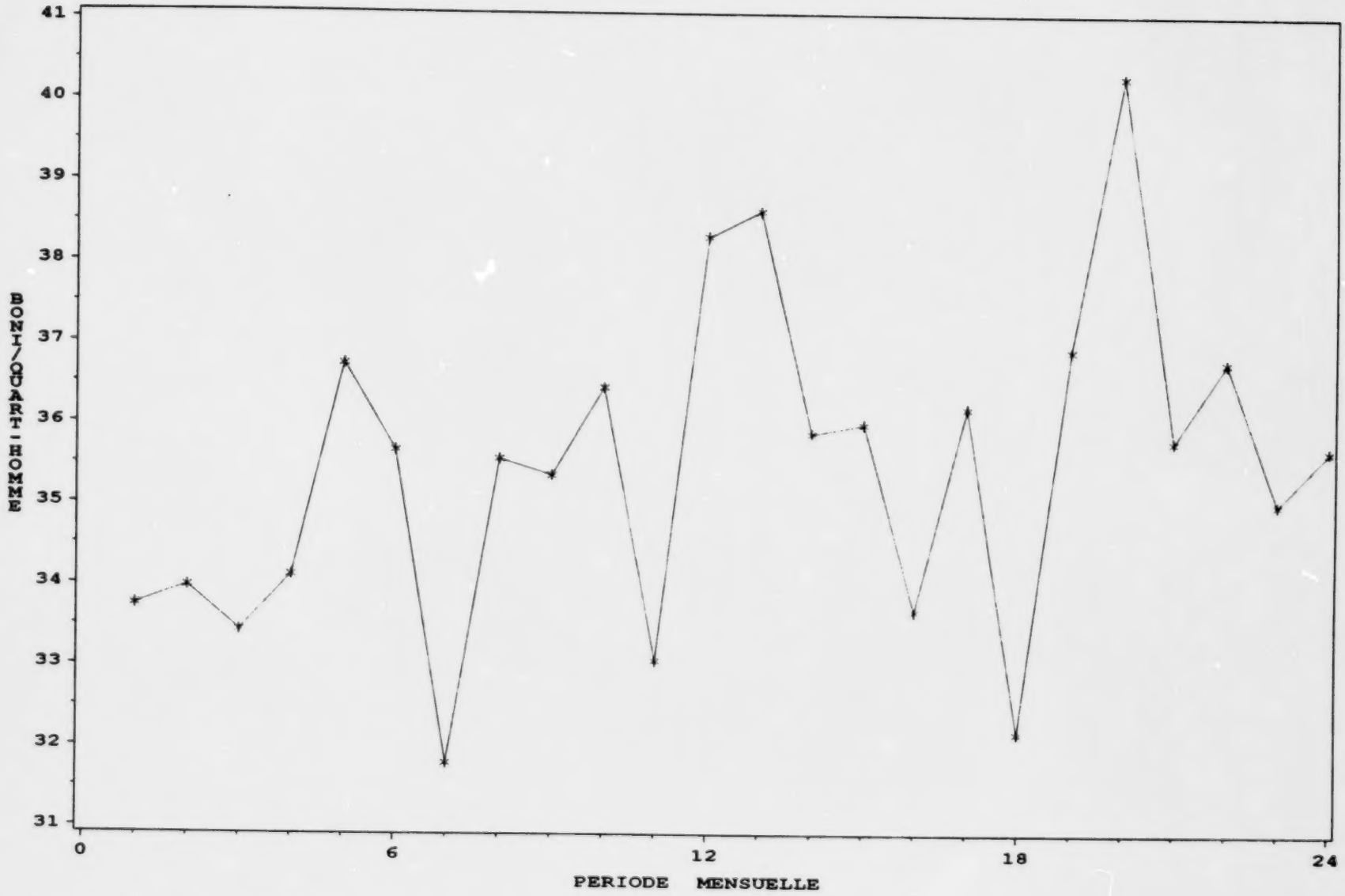
TYPE DE FEUILLE DE CONTRAT:4

FIGURE D.28



TYPE DE FEUILLE DE CONTRAT: 4

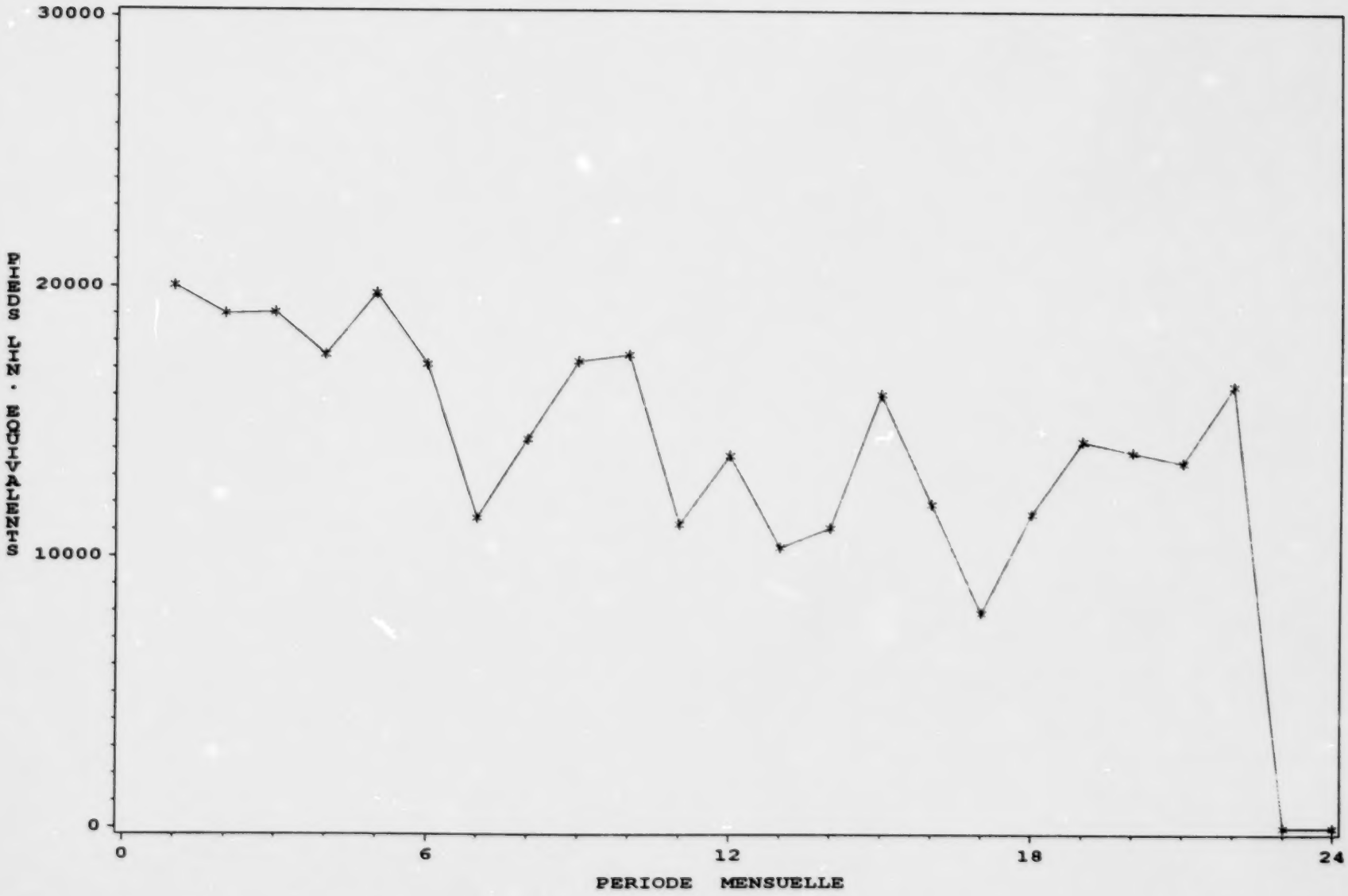
FIGURE D.29



TYPE DE FEUILLE DE CONTRAT:4

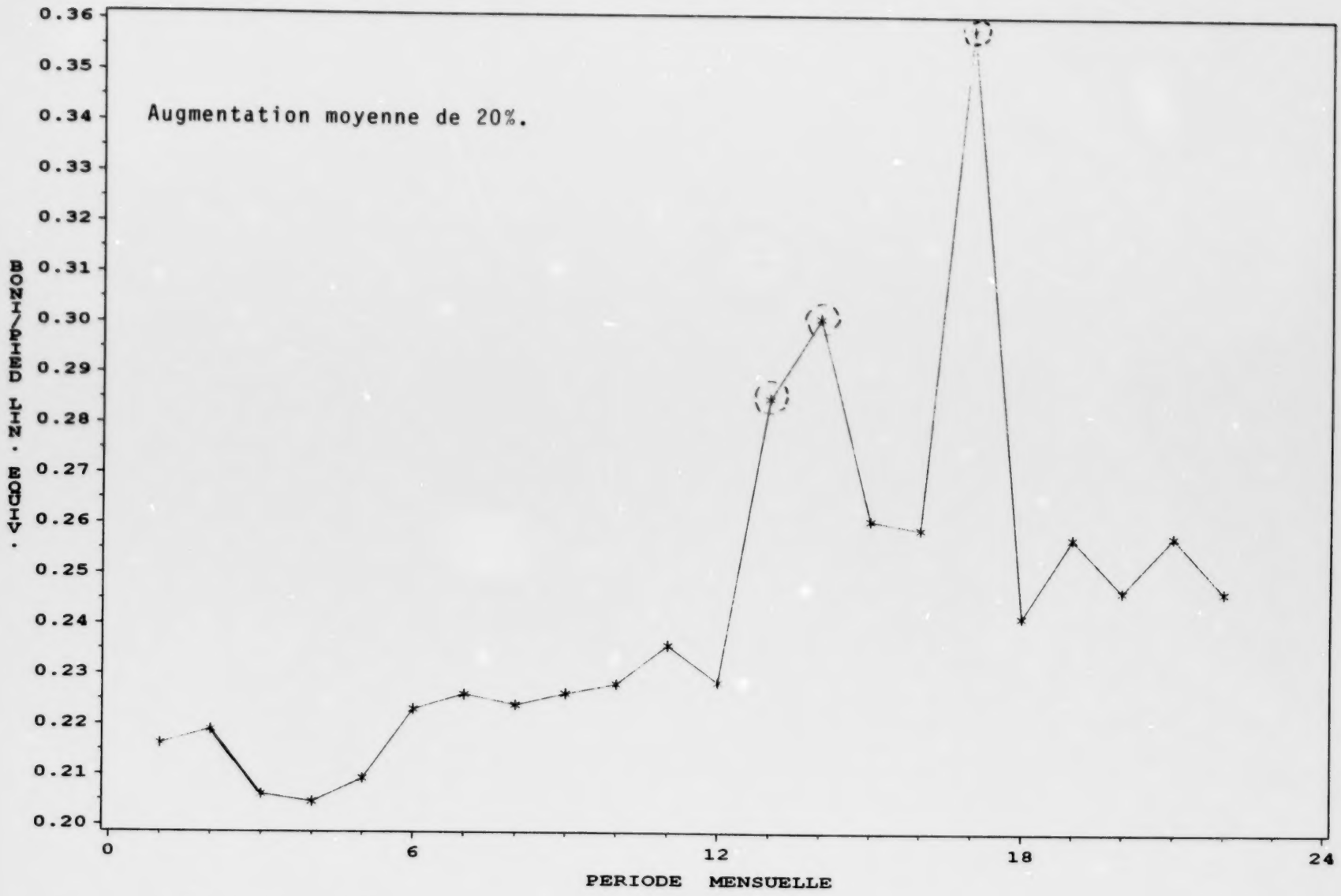
FIGURE D.30

PIEDS LINEAIRES EQUIV. VS PERIODE DU RELEVE
MINE D



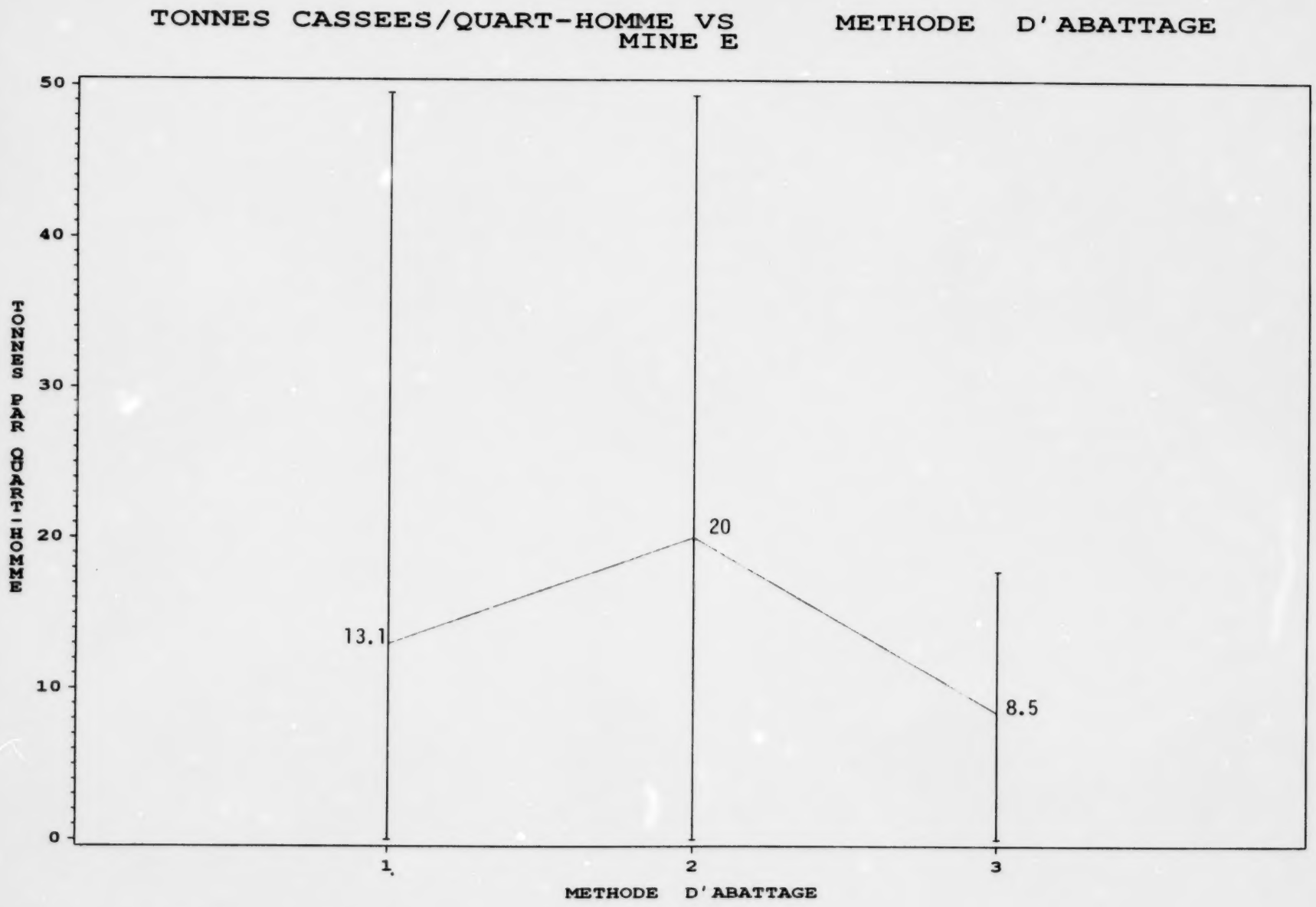
TYPE DE FEUILLE DE CONTRAT:4

FIGURE D.31



TYPE DE FEUILLE DE CONTRAT:4

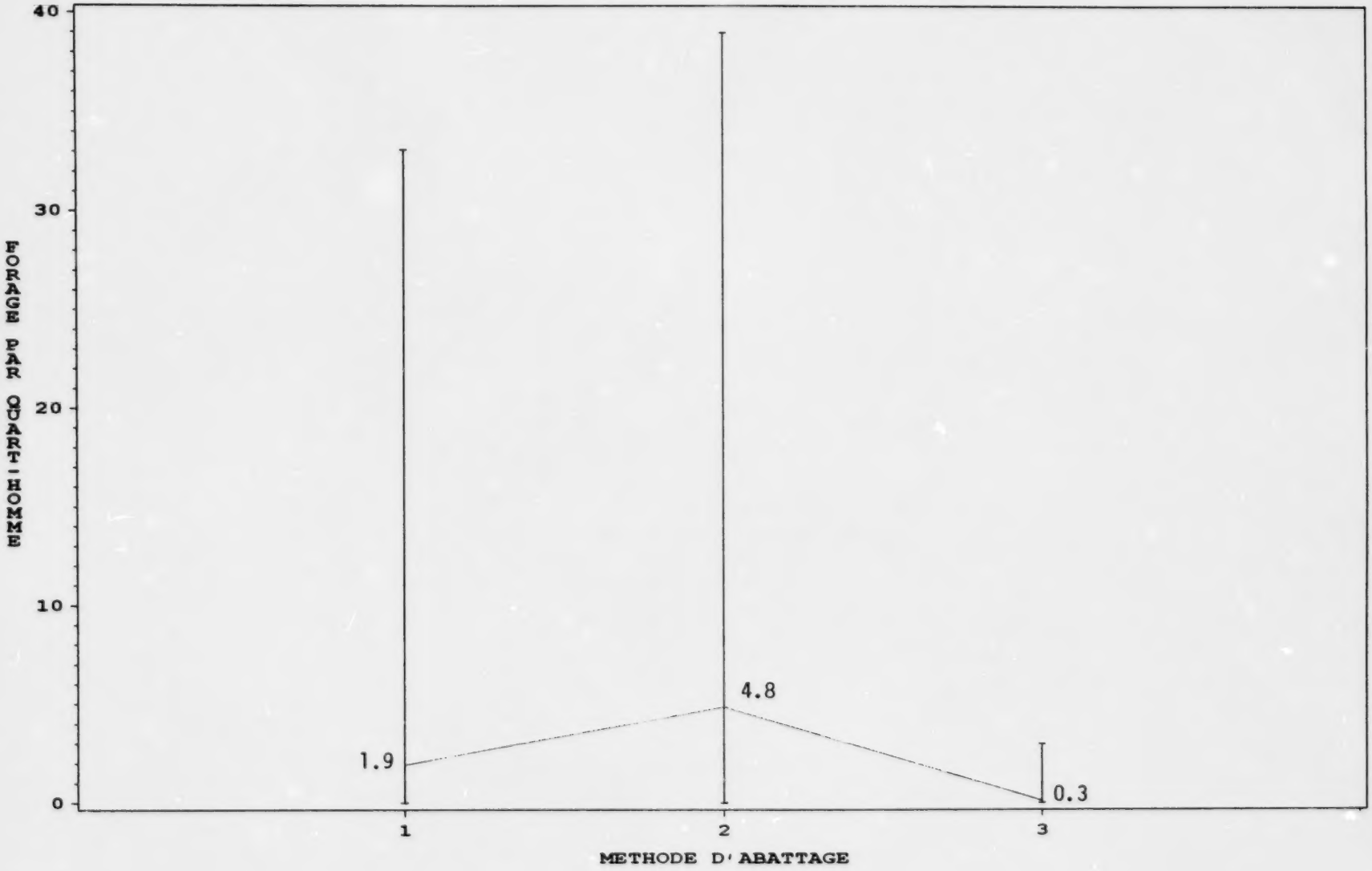
FIGURE D.32



METHODE 1: CHAMBRES REMBLAYEES
METHODE 2: CHAMBRES MAGASINS
METHODE 3: RECUPERATION DE PILIERS

FIGURE E.1

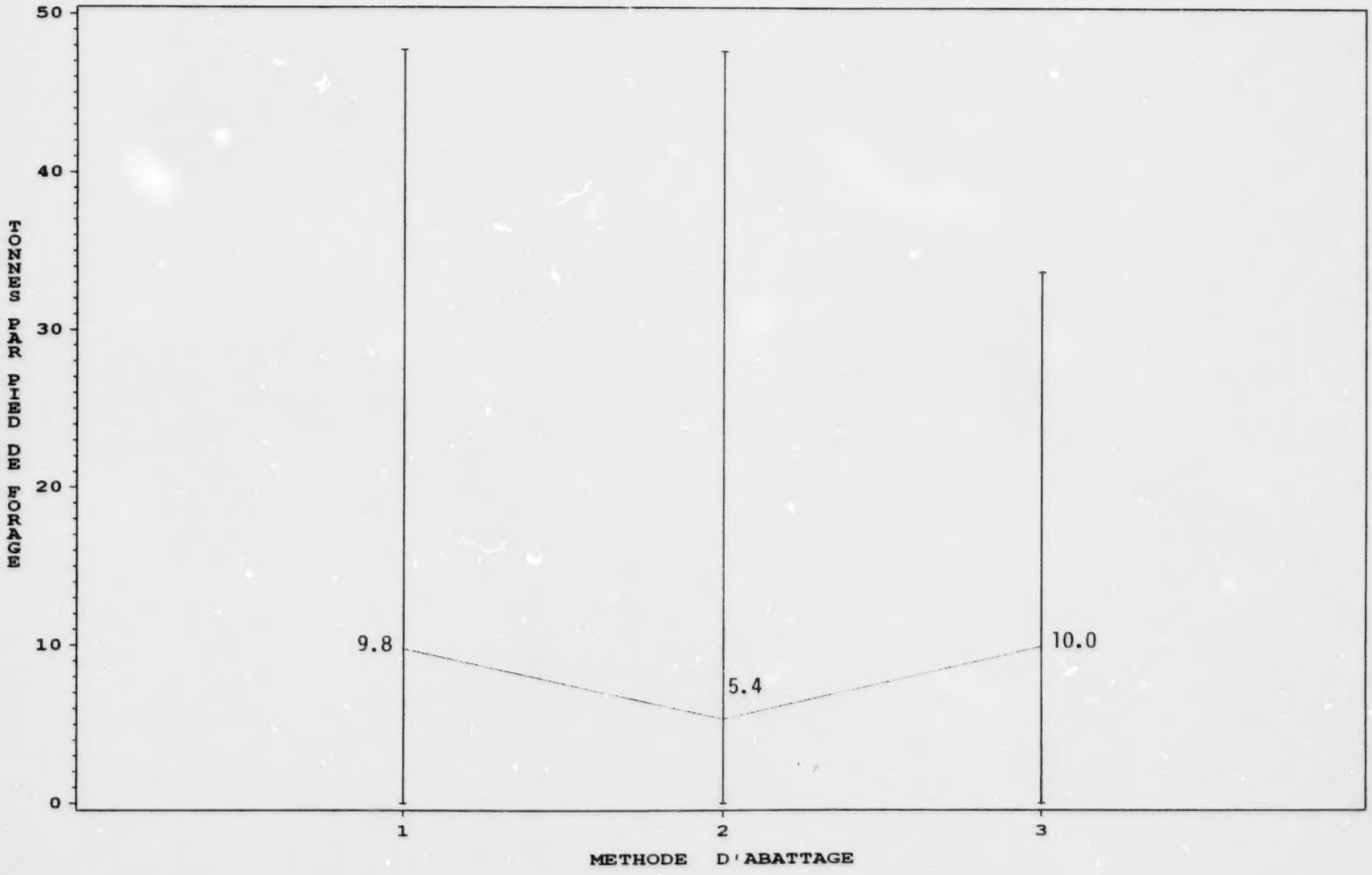
PIEDS DE FORAGE/QUART-HOMME VS METHODE D'ABATTAGE
MINE E



METHODE 1: CHAMBRES REMBLAYEES
METHODE 2: CHAMBRES MAGASINS
METHODE 3: RECUPERATION DE PILIERS

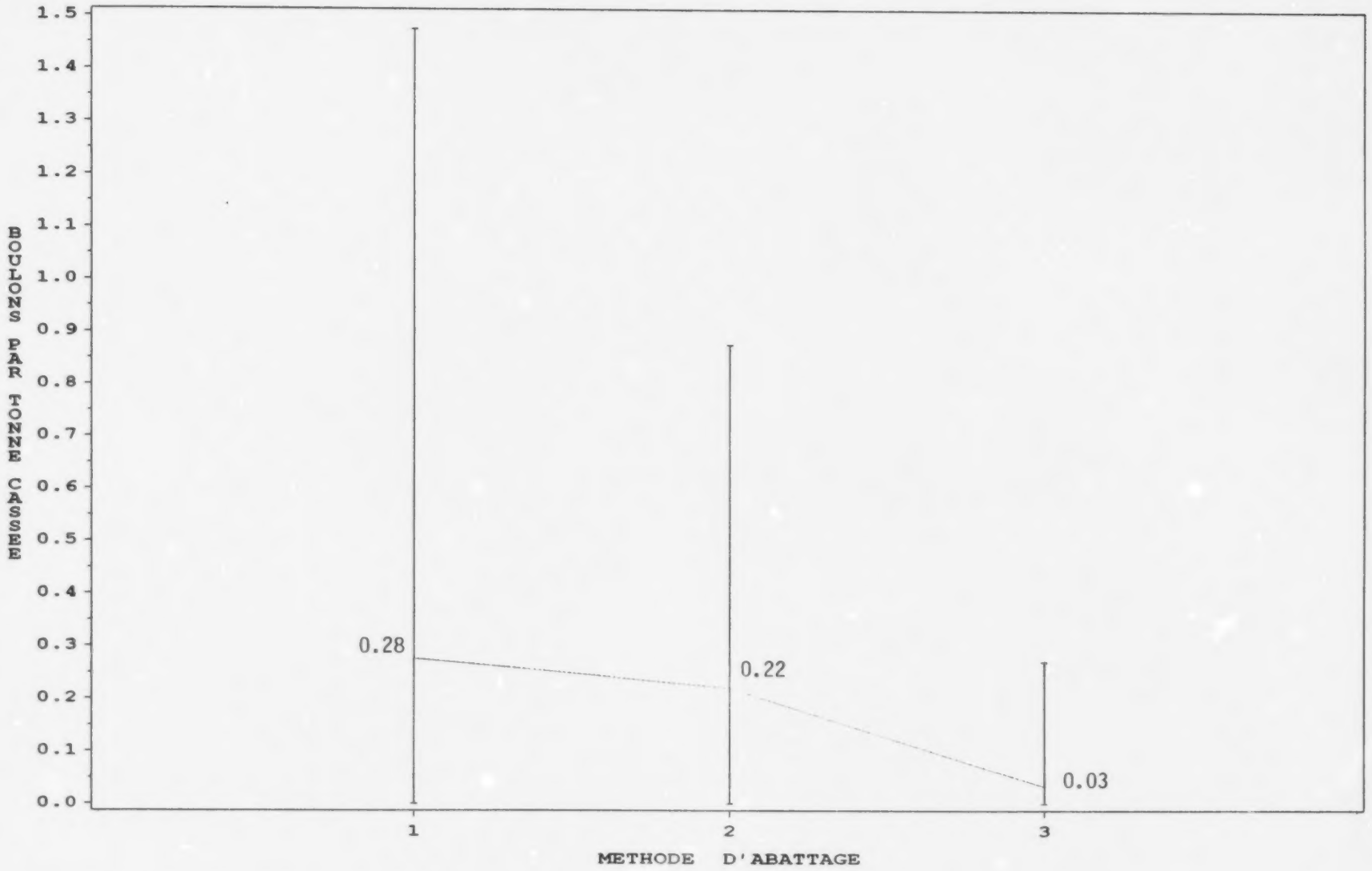
FIGURE E.2

TONNES CASSEES/PIED DE FORAGE VS METHODE D'ABATTAGE
MINE E



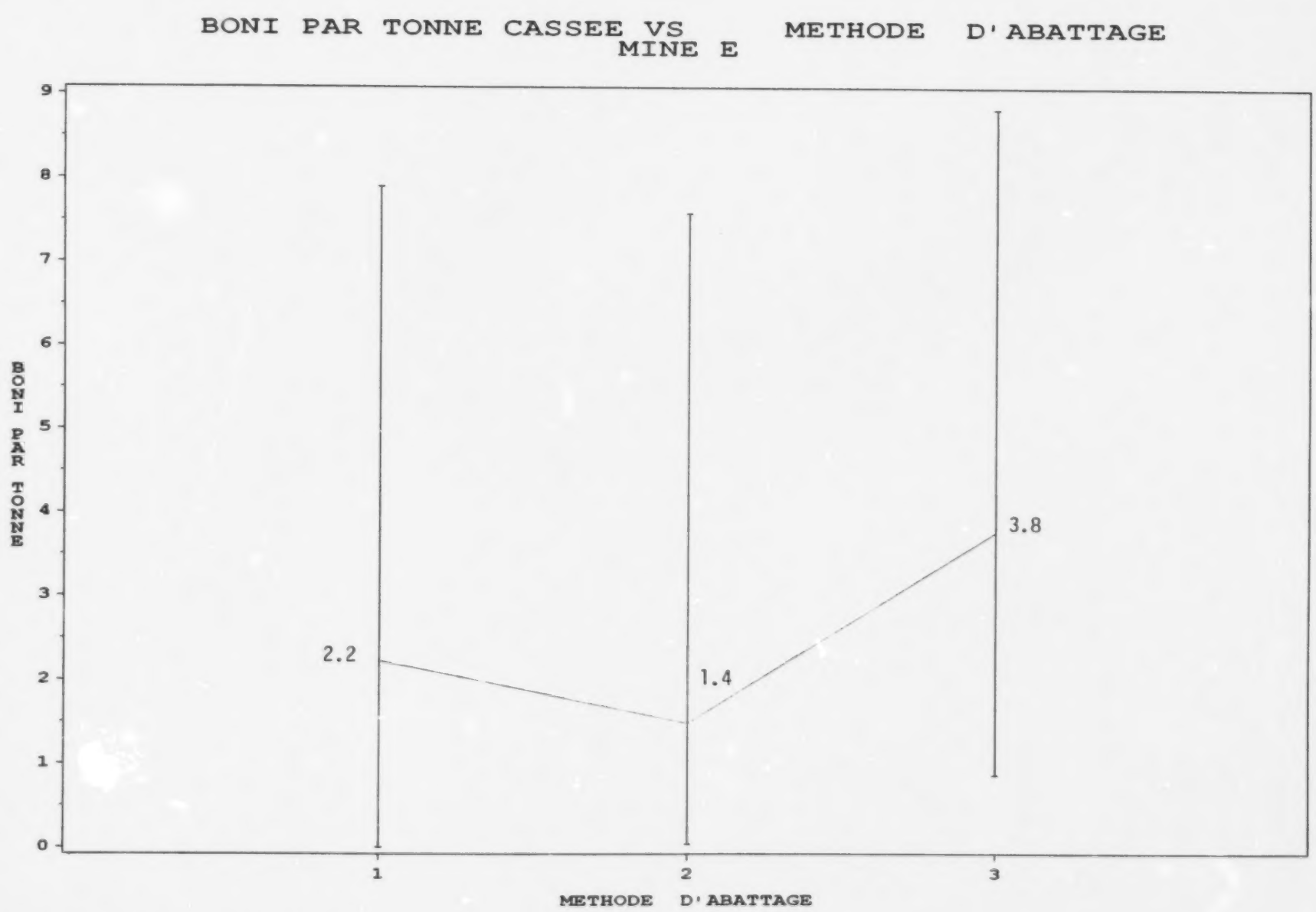
METHODE 1: CHAMBRES REMBLAYEES
METHODE 2: CHAMBRES MAGASINS
METHODE 3: RECUPERATION DE PILIERS

FIGURE E.3



METHODE 1: CHAMBRES REMBLAYEES
METHODE 2: CHAMBRES MAGASINS
METHODE 3: RECUPERATION DE PILIERS

FIGURE E.4



METHODE 1: CHAMBRES REMBLAYEES
METHODE 2: CHAMBRES MAGASINS
METHODE 3: RECUPERATION DE PILIERS

FIGURE E.5

NOMBRE DE MINEURS VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

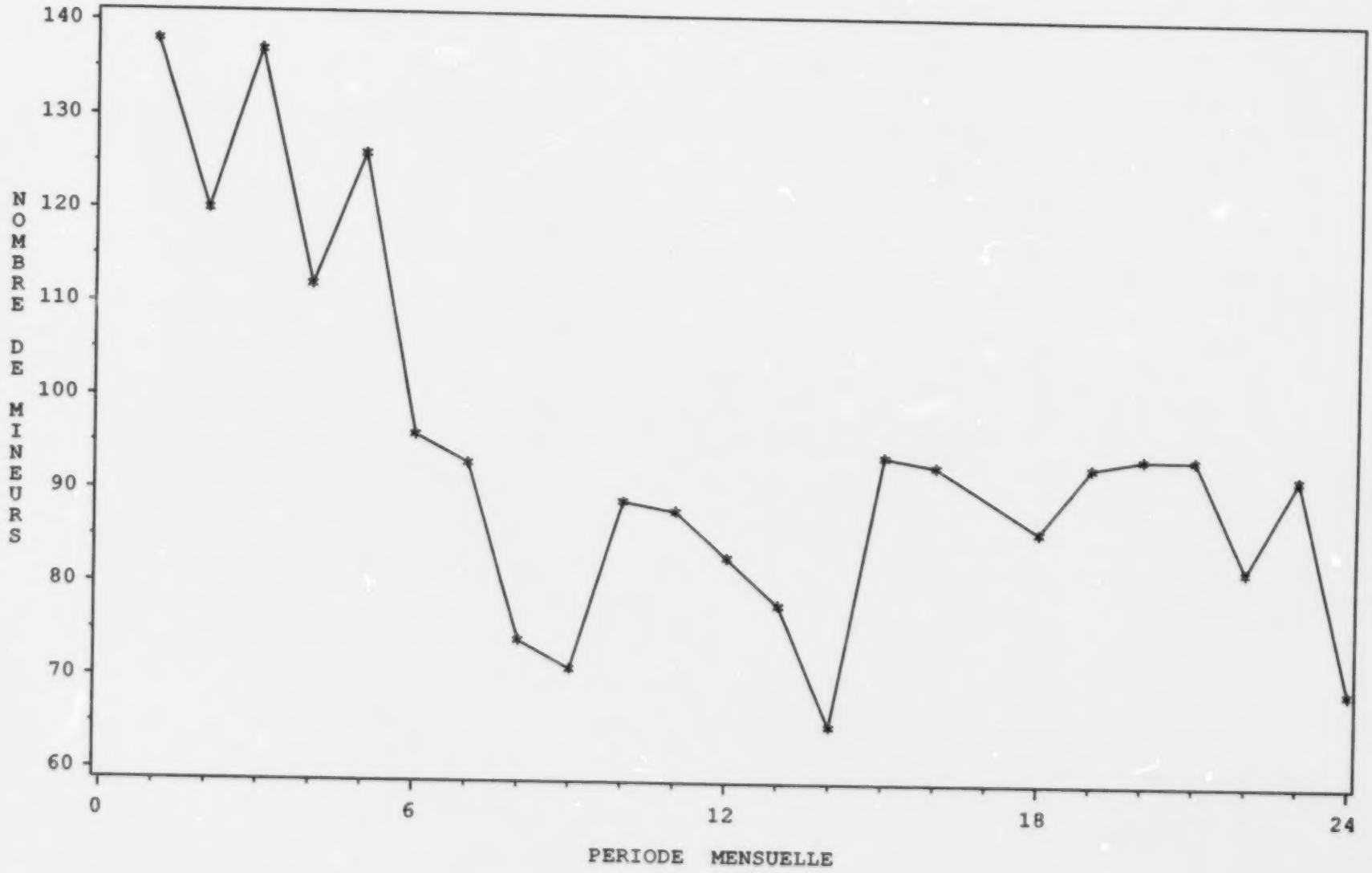


Figure E.6

NOMBRE DE MINEURS VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

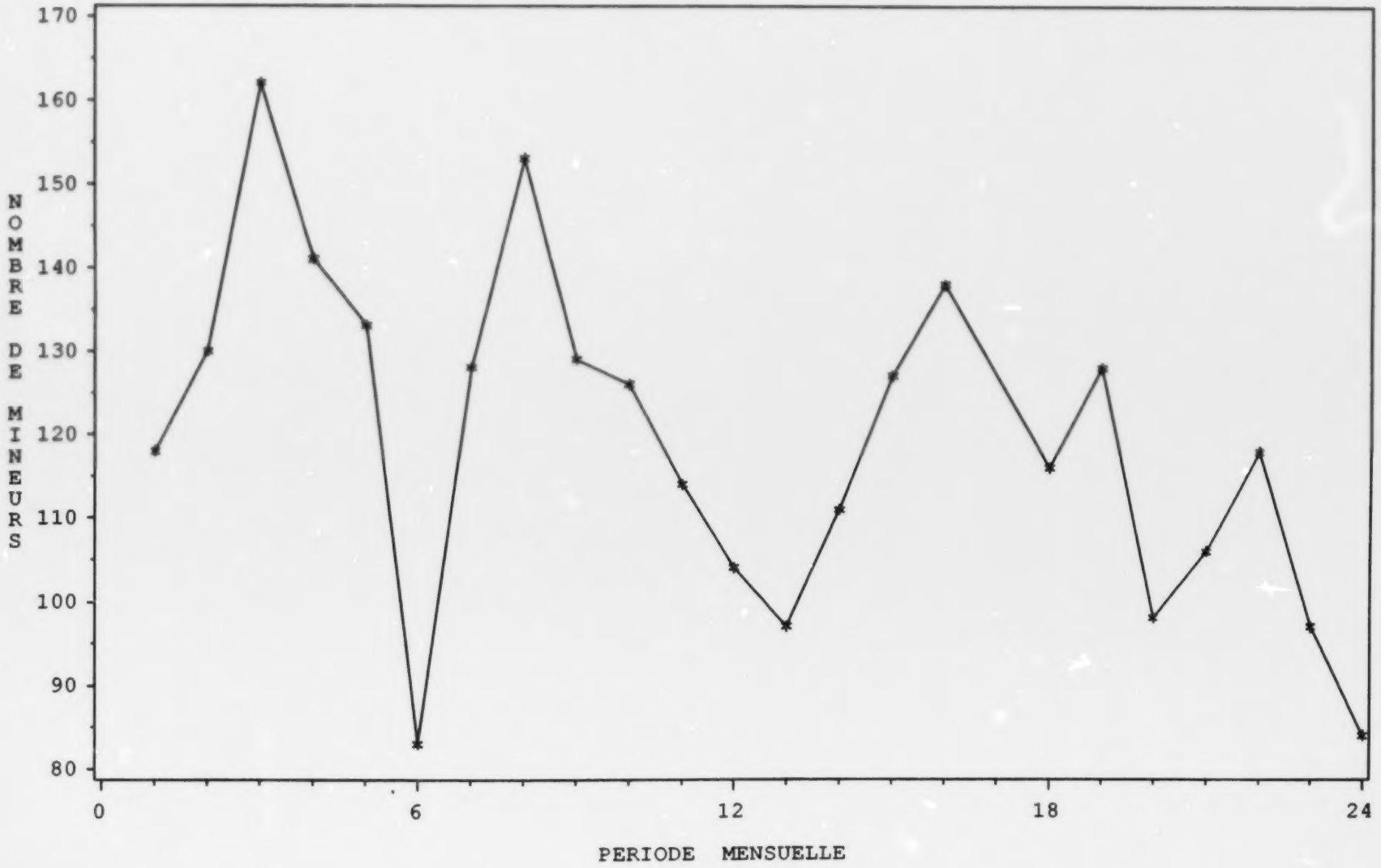


Figure E.7

NOMBRE DE MINEURS VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

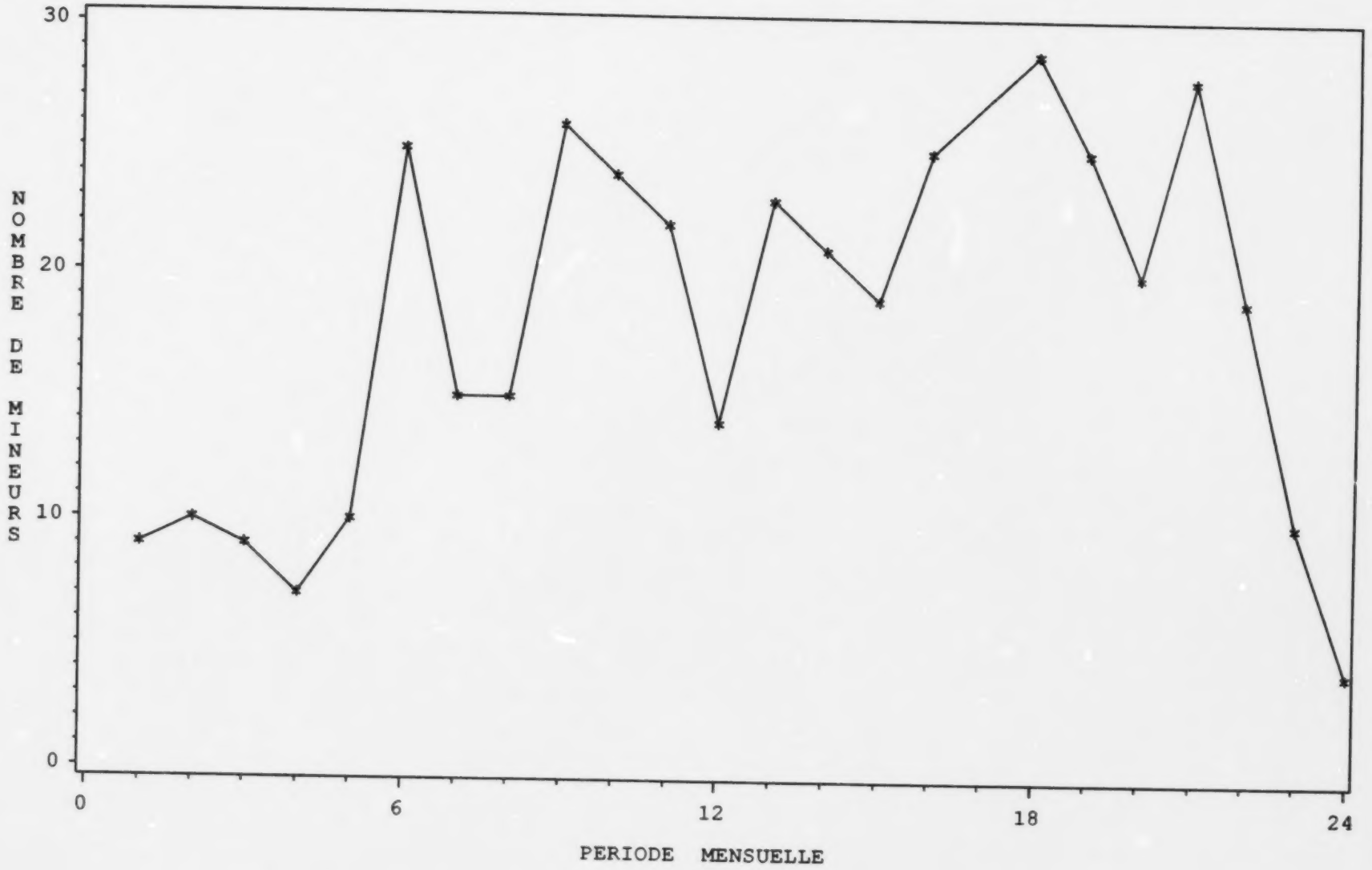


Figure E.8

NOMBRE DE QUARTS-HOMMES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

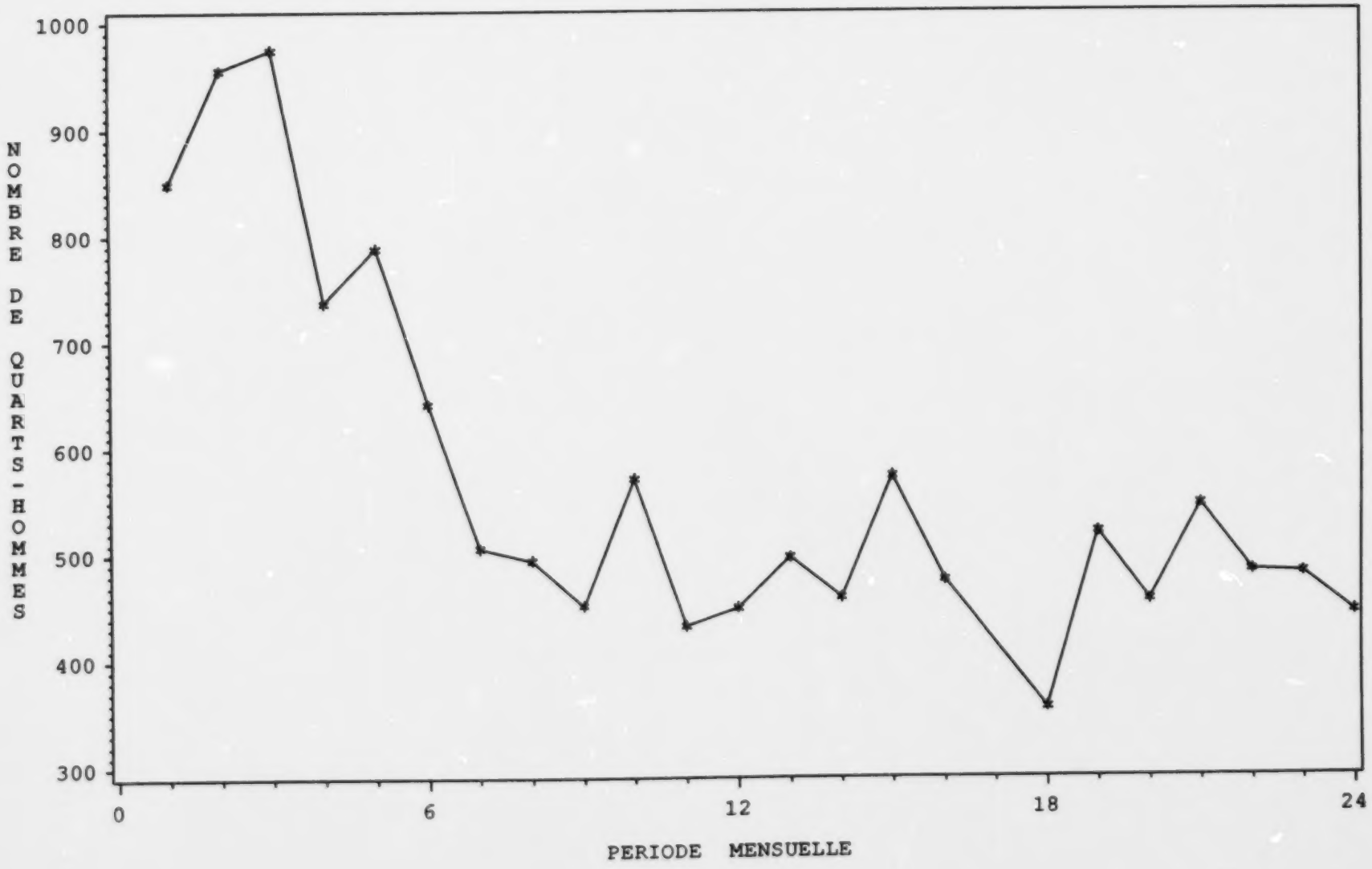


Figure E.9

NOMBRE DE QUARTS-HOMMES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

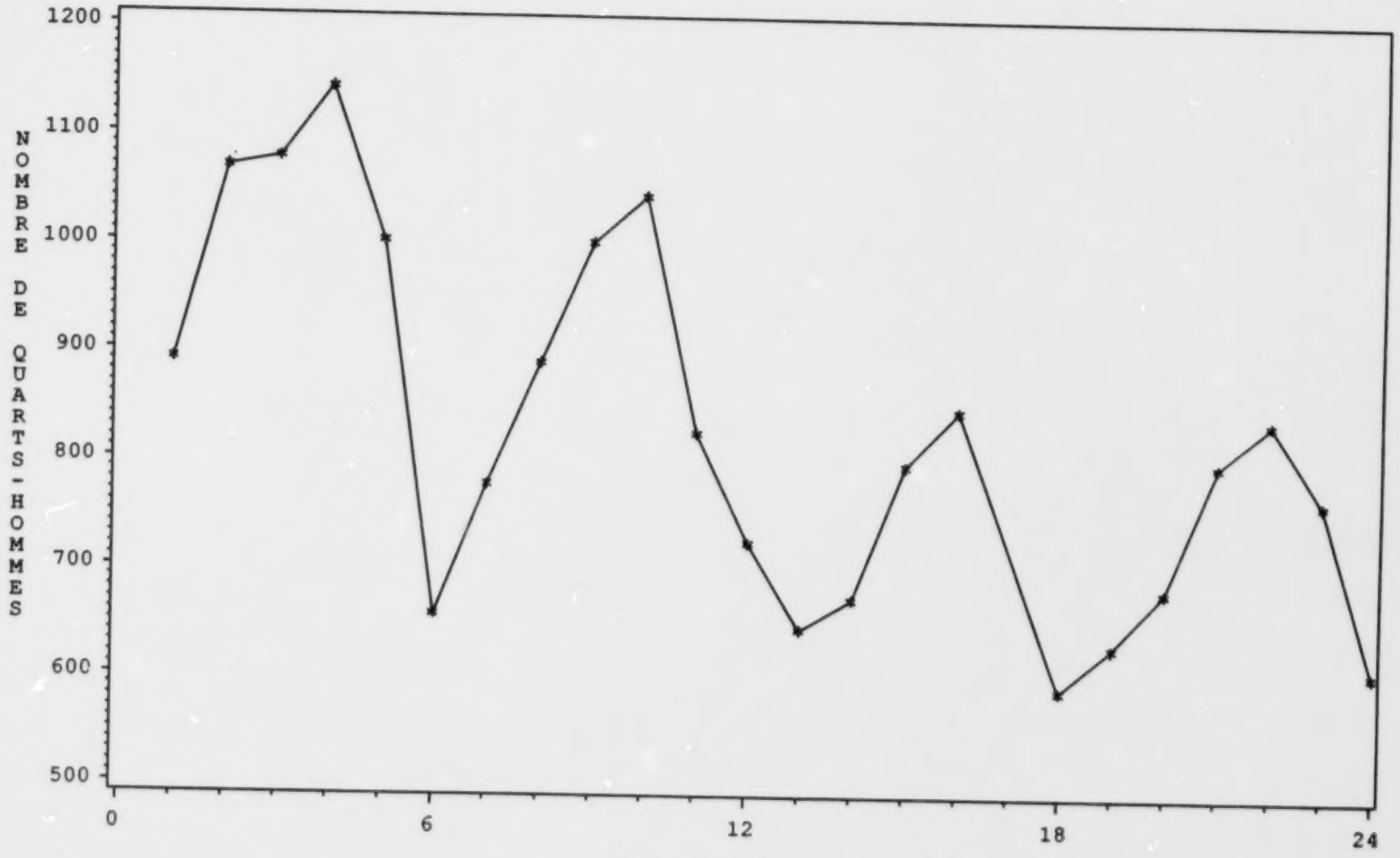


Figure E.10

NOMBRE DE QUARTS-HOMMES VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

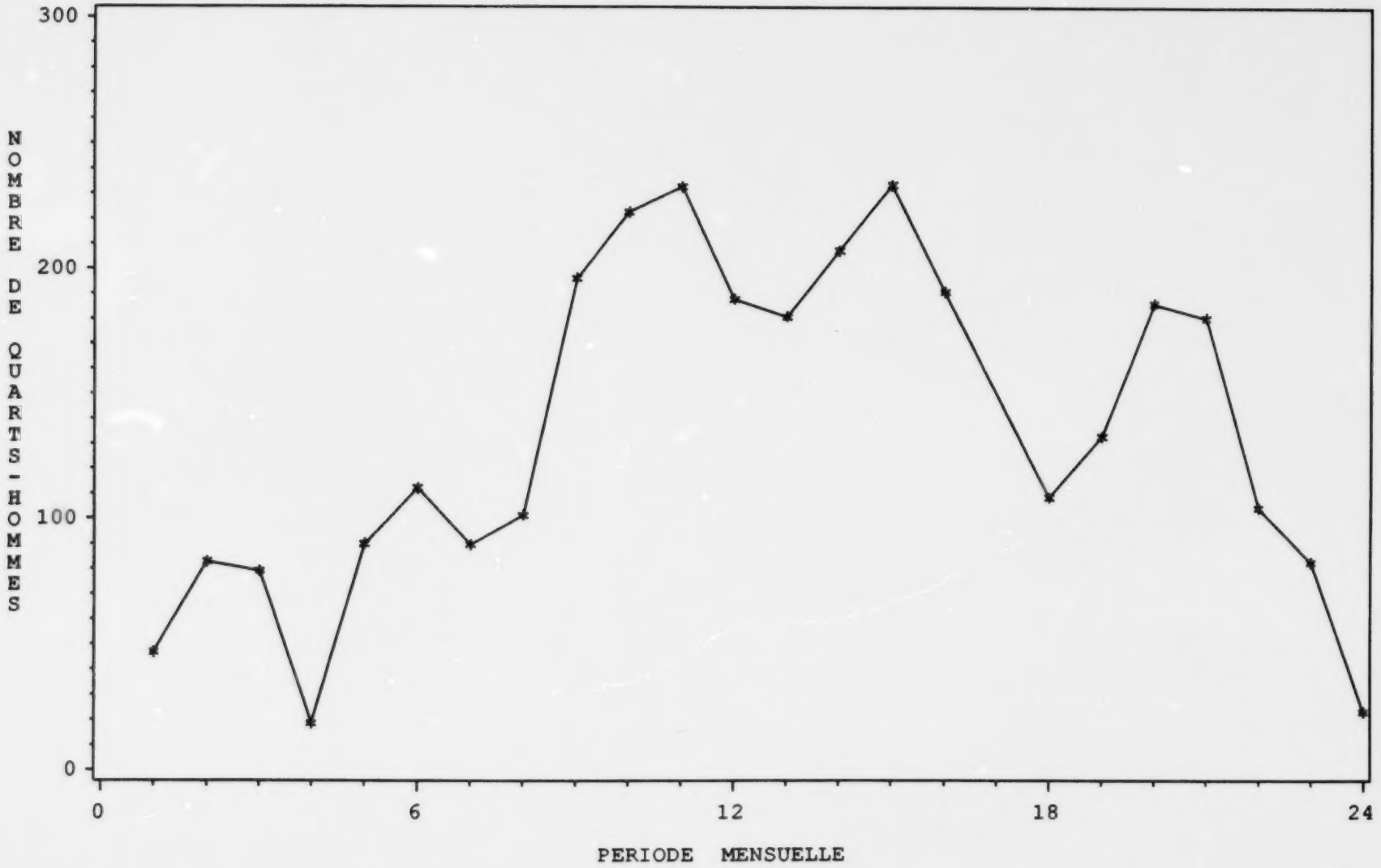


Figure E.11

HEURES DE TRAVAIL VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

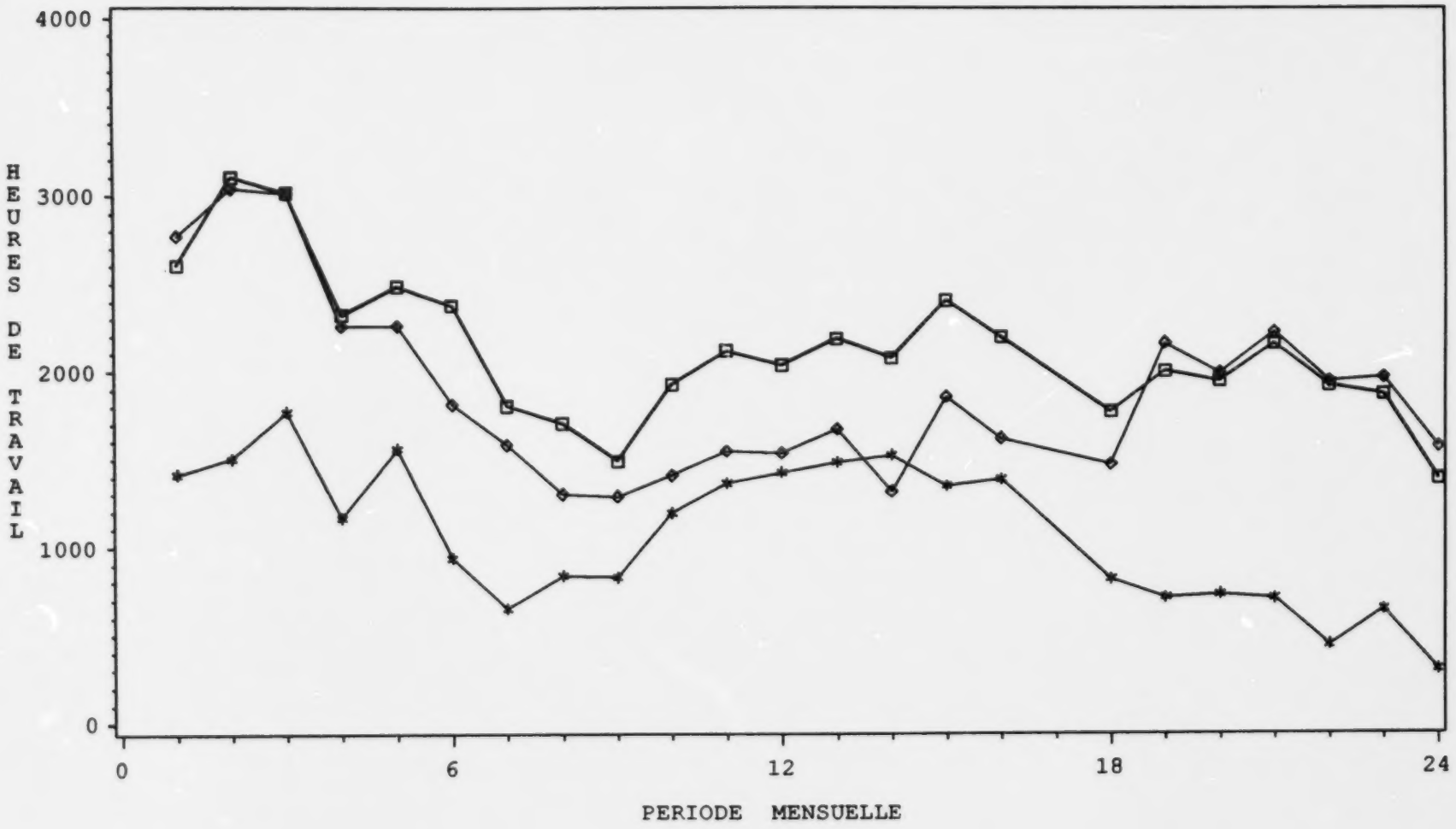


Figure E.12

ETOILE: HEURES DE TEMPS DE COMPAGNIE
CARRE: HEURES DE TEMPS DE CONTREMAITRE
LOSANGE: HEURES DE TEMPS DE MINAGE

HEURES DE TRAVAIL VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

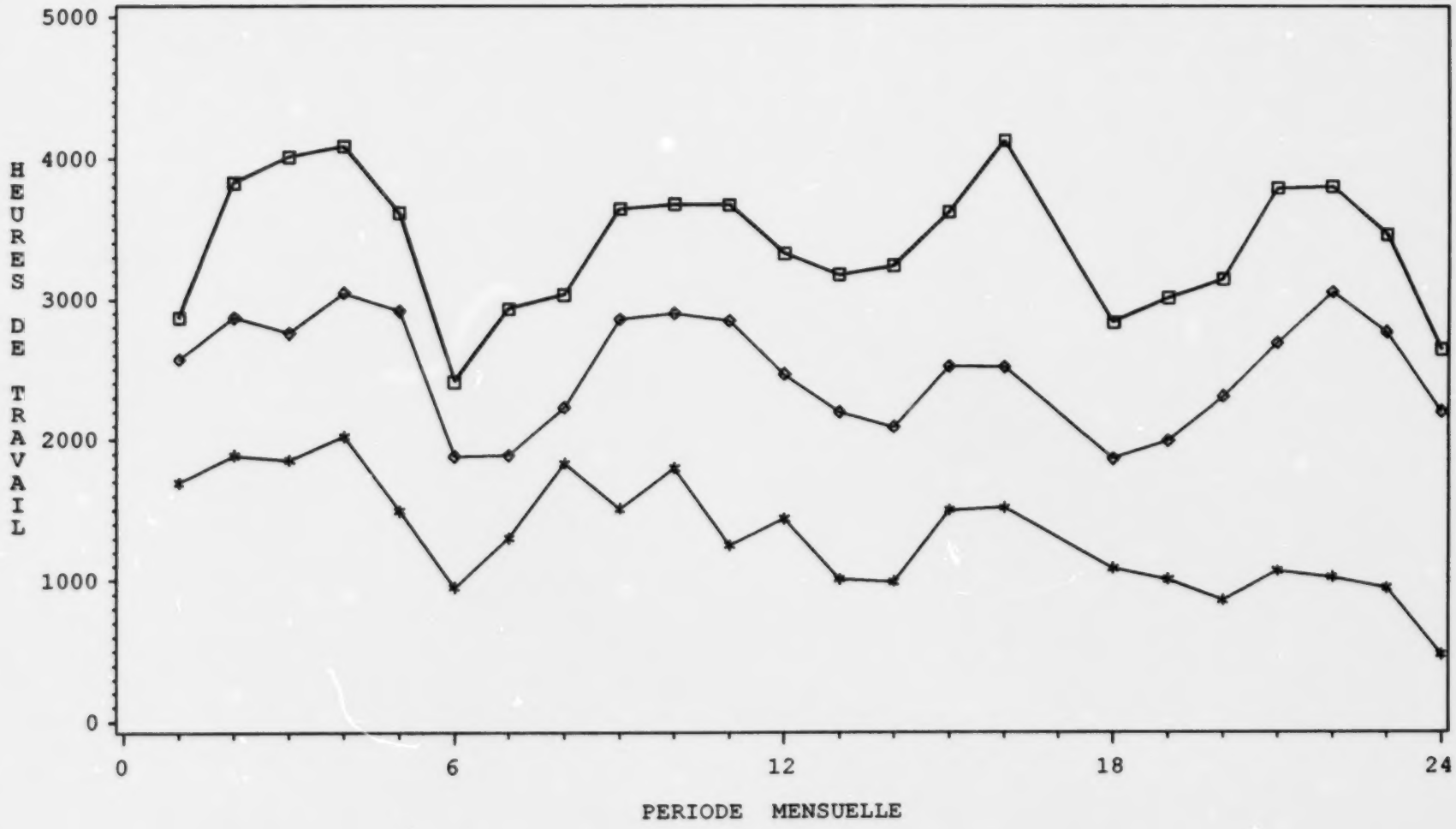


Figure E.13

ETOILE: HEURES DE TEMPS DE COMPAGNIE
CARRE: HEURES DE TEMPS DE CONTREMAITRE
LOSANGE: HEURES DE TEMPS DE MINAGE

HEURES DE TRAVAIL VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

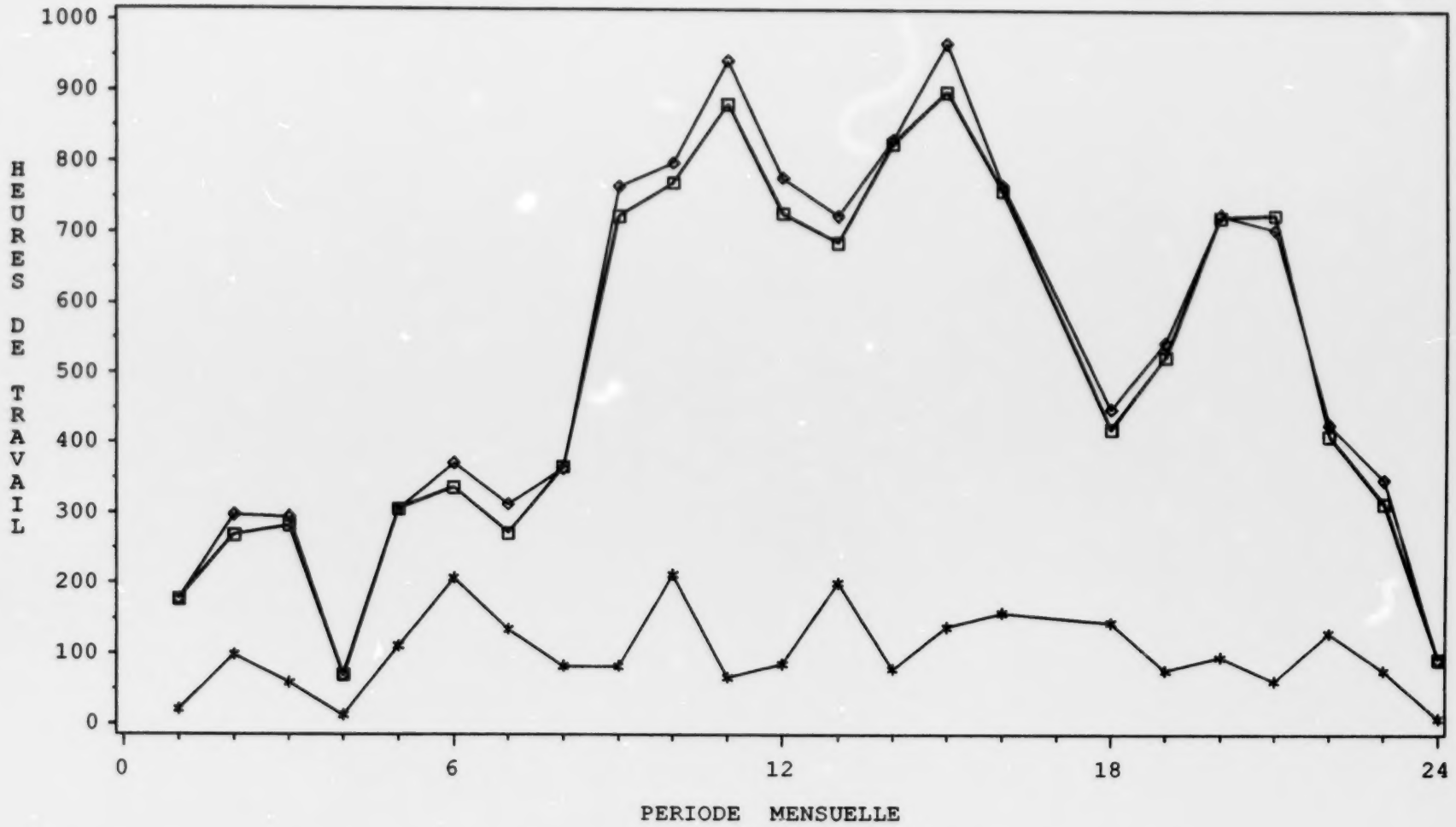


Figure E.14

ETOILE: HEURES DE TEMPS DE COMPAGNIE
CARRE: HEURES DE TEMPS DE CONTREMAITRE
LOSANGE: HEURES DE TEMPS DE MINAGE

NOMBRE DE TONNES EXPLOITEES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

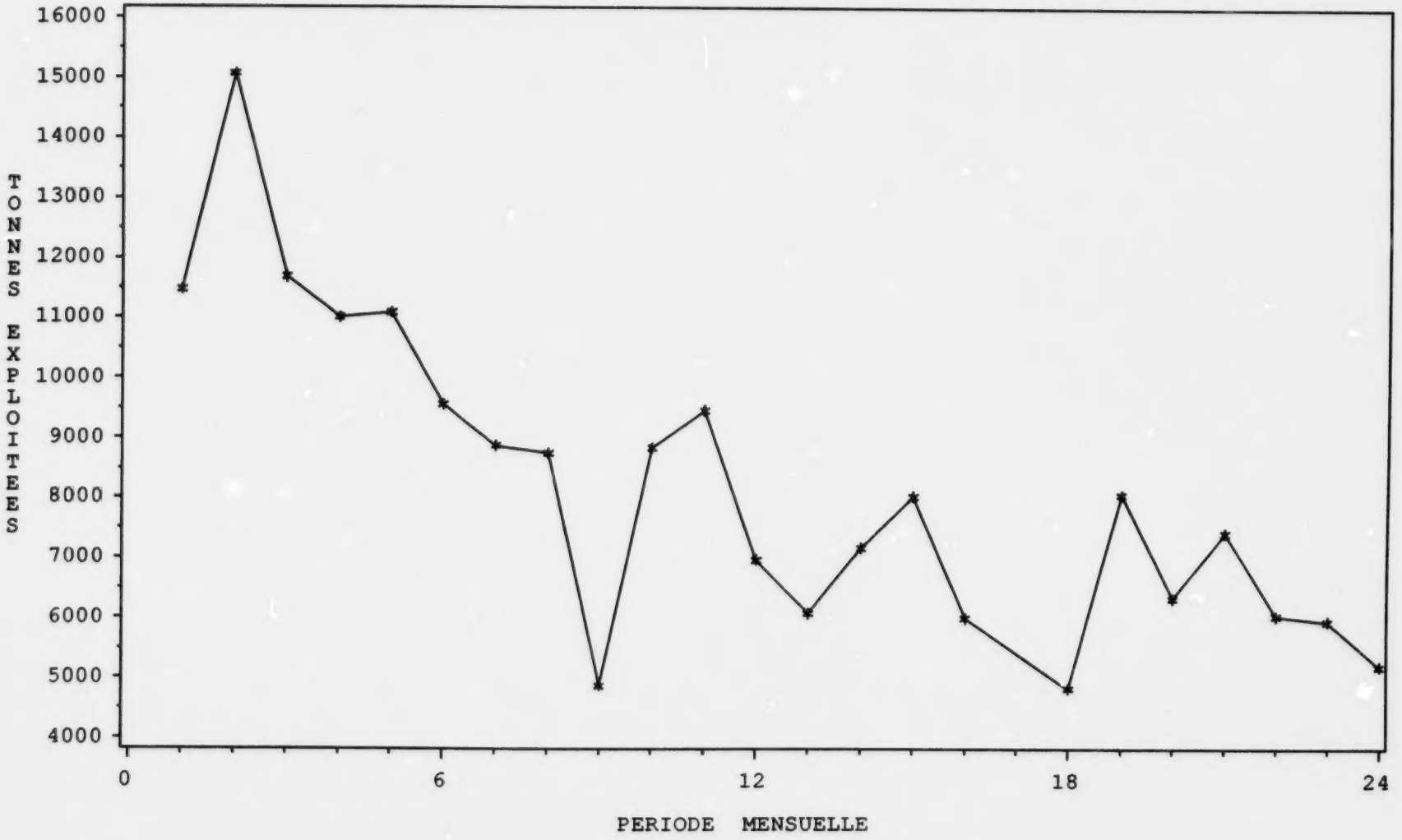


Figure E.15

NOMBRE DE TONNES EXPLOITEES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

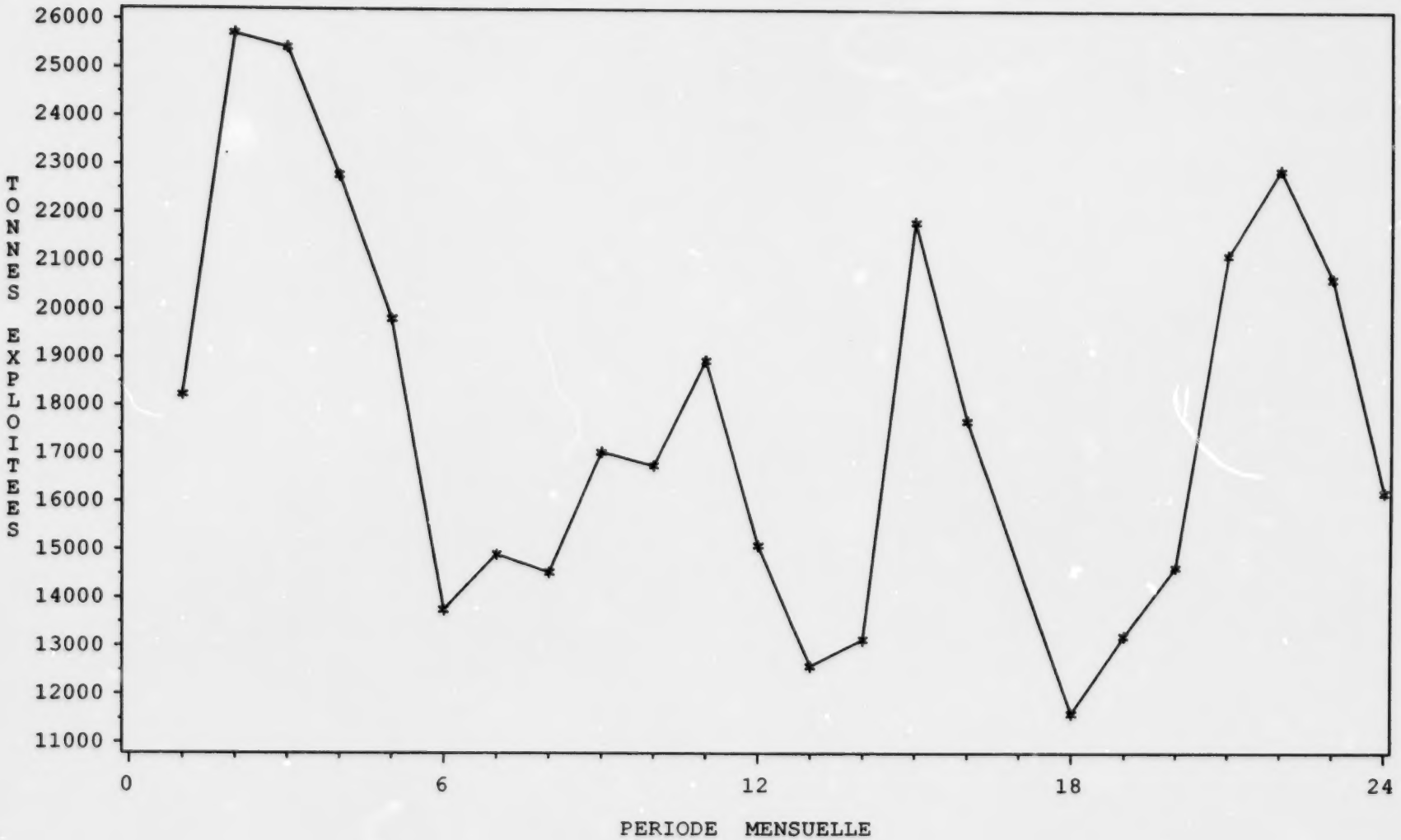


Figure E.16

NOMBRE DE TONNES EXPLOITEES VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

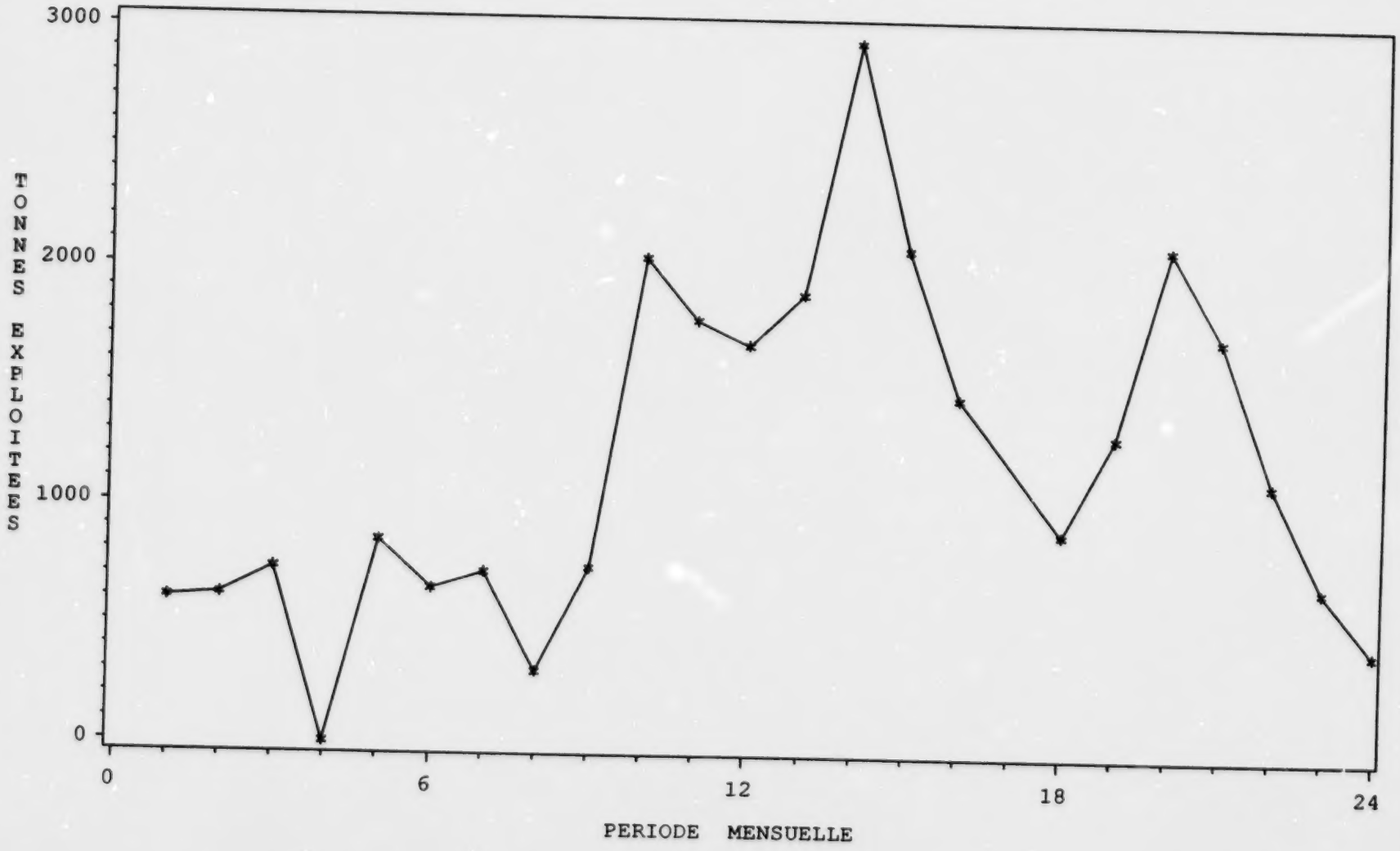


Figure E.17

TONNES EXPLOITEES/QUART-HOMME VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

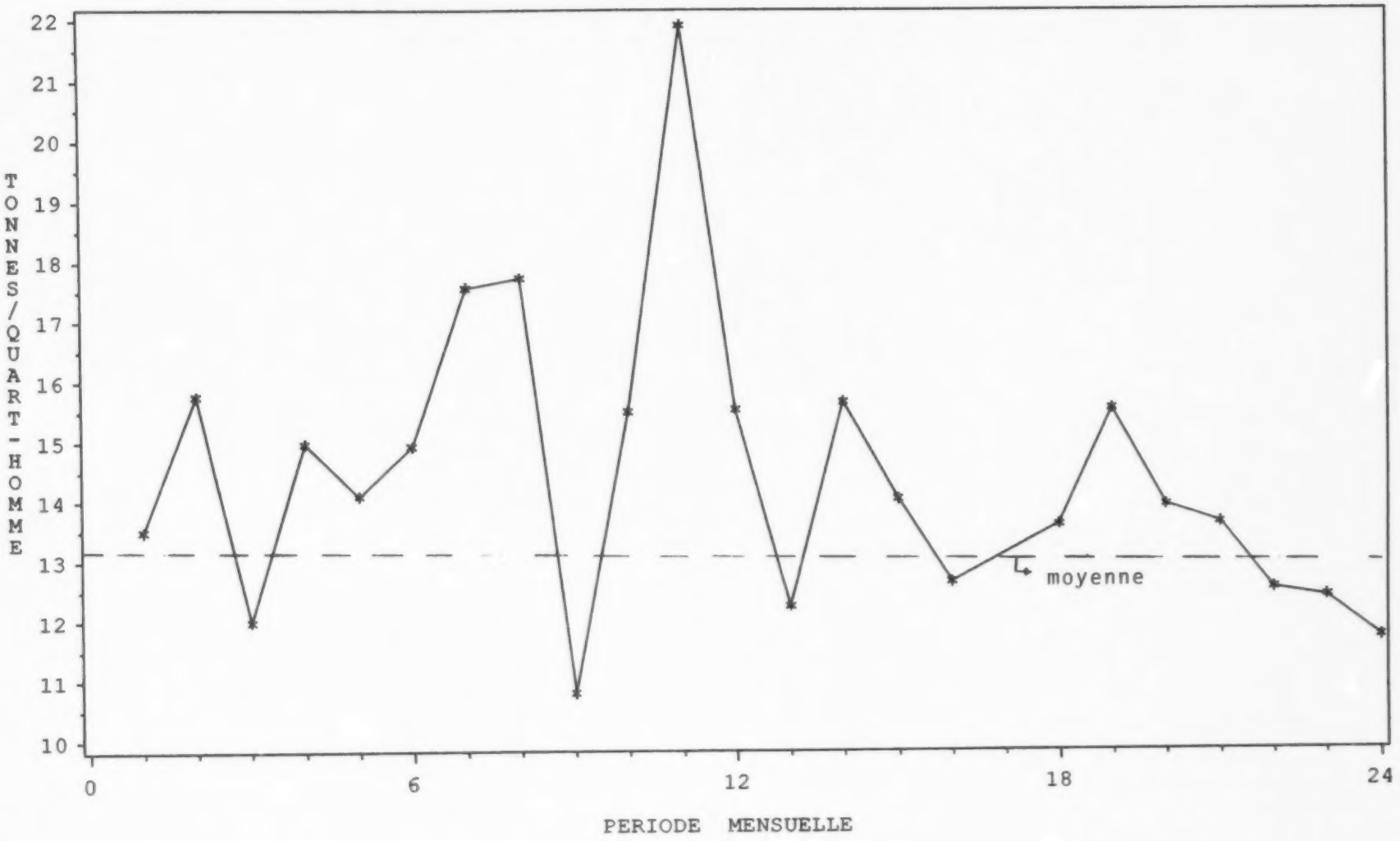


Figure E.18

TONNES EXPLOITEES/QUART-HOMME VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

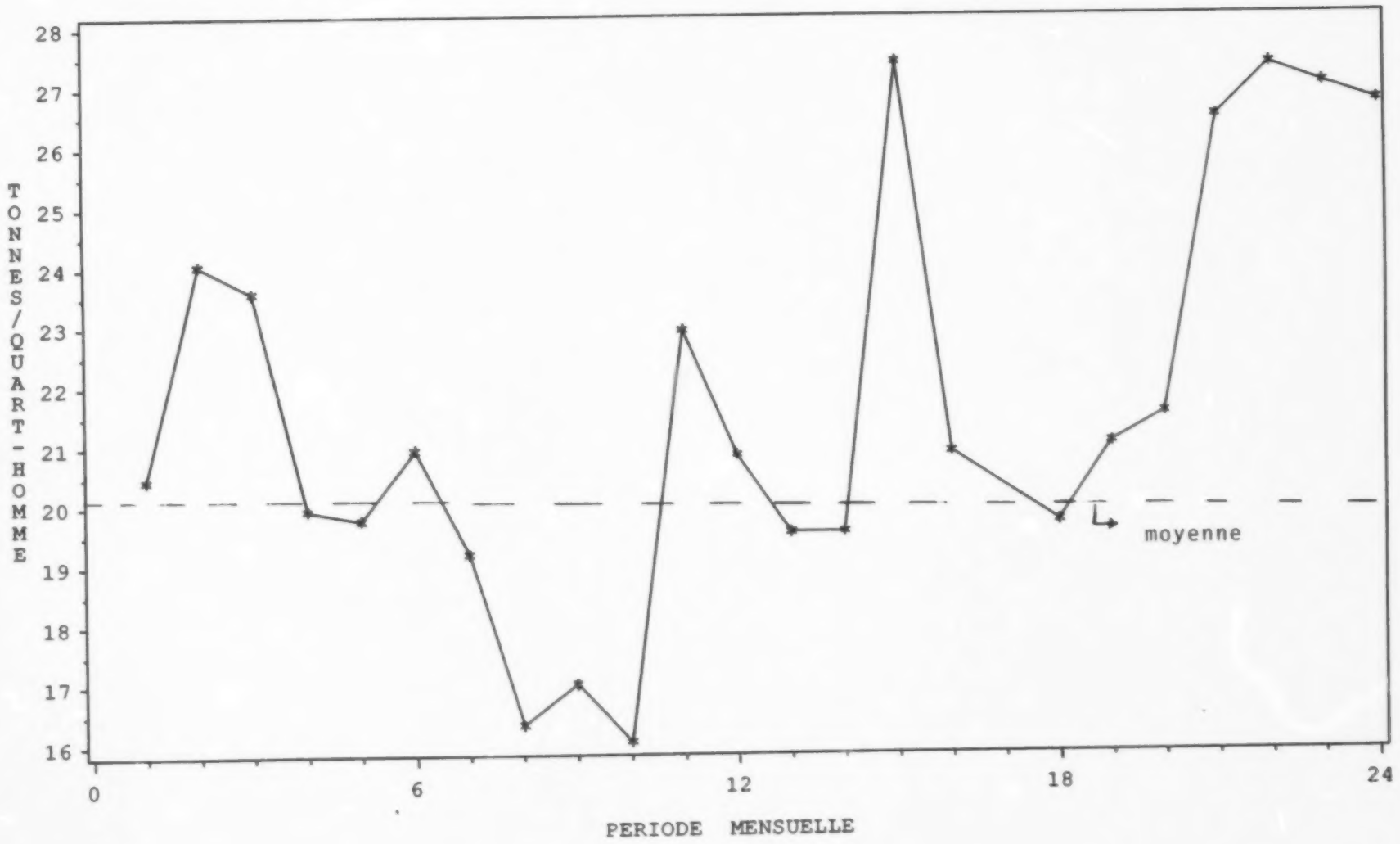


Figure E.19

TONNES EXPLOITEES/QUART-HOMME VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

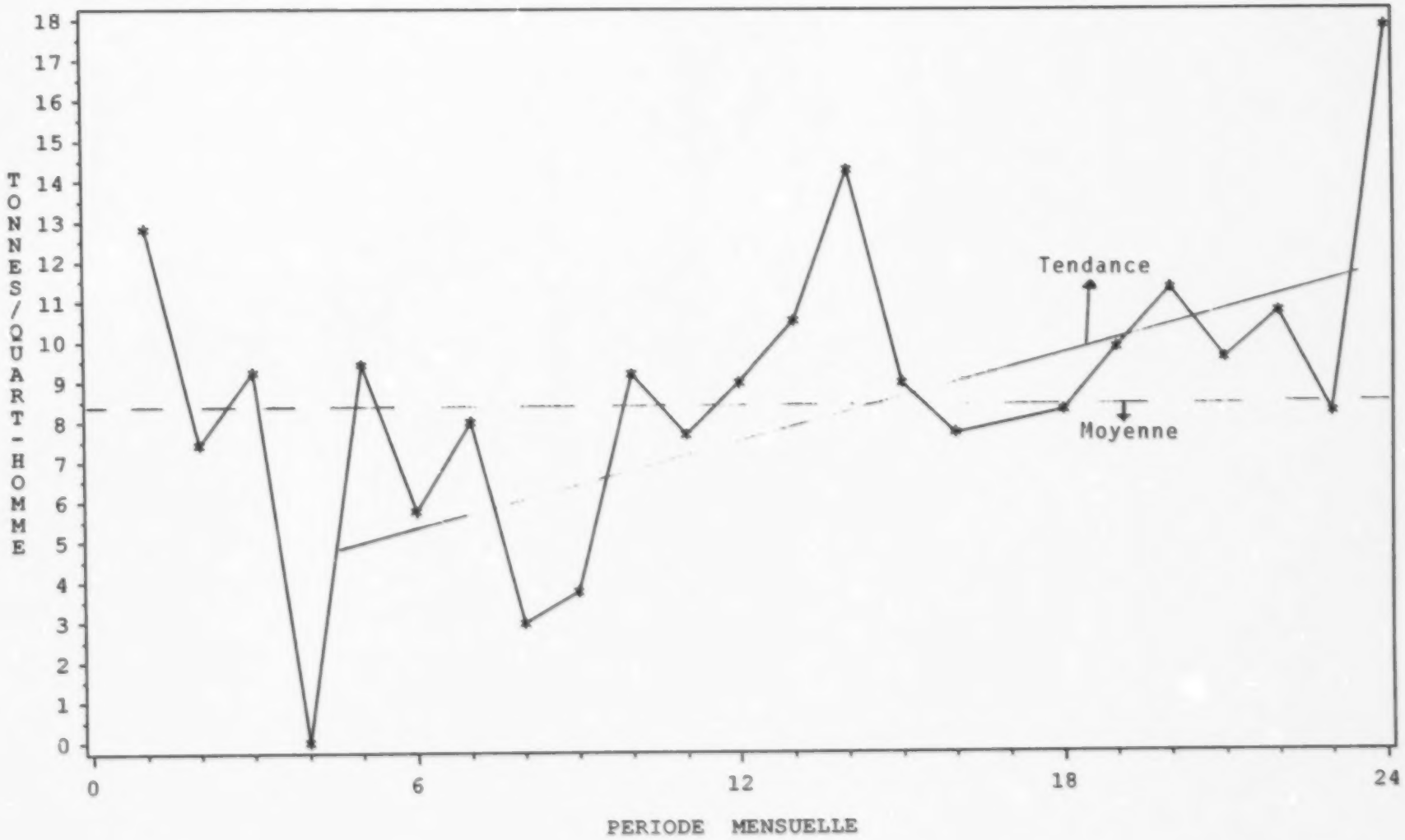


Figure E.20

TONNES EXPLOITEES/PIED DE FORAGE VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

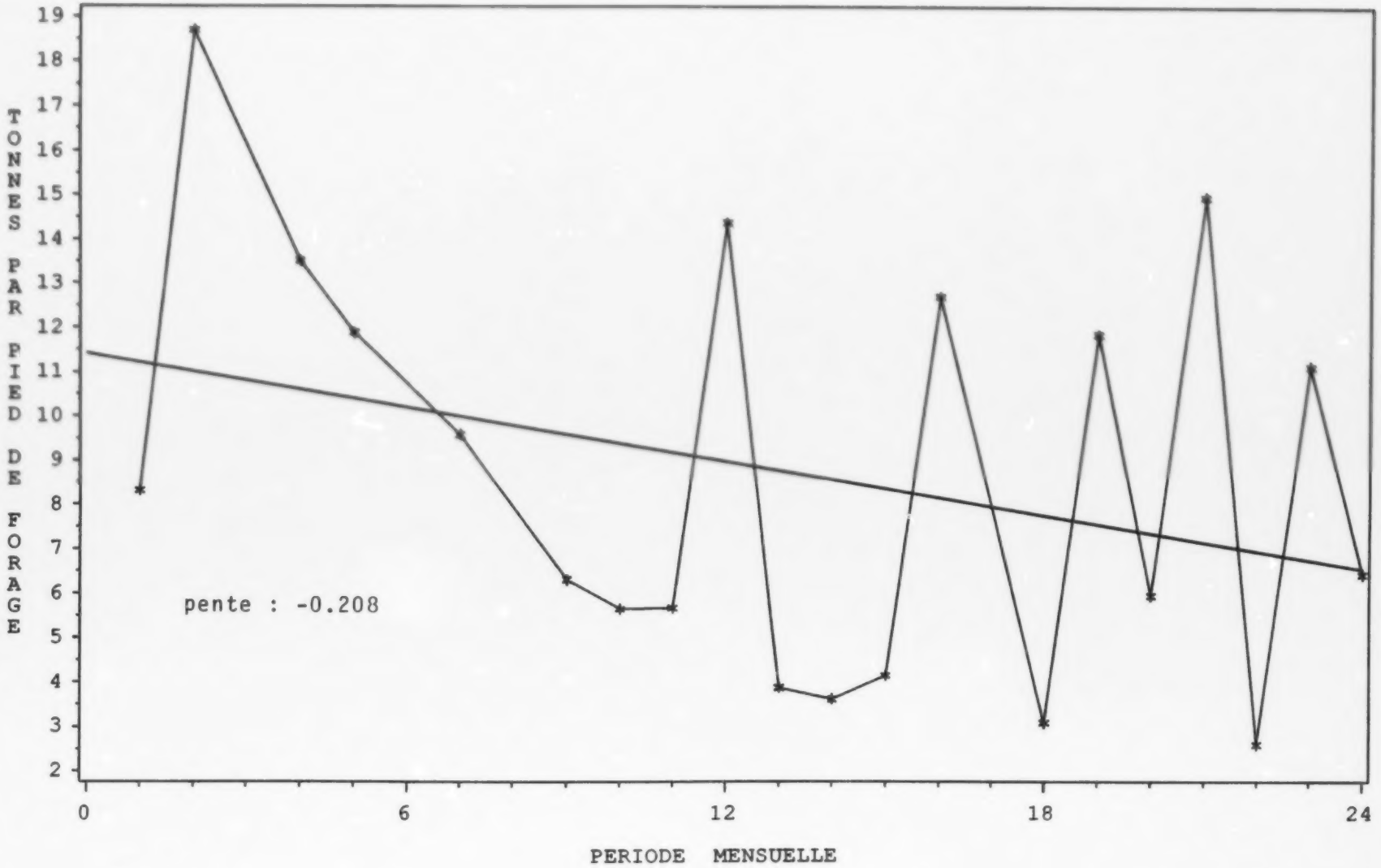


Figure E.21

TONNES EXPLOITEES/PIED DE FORAGE VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

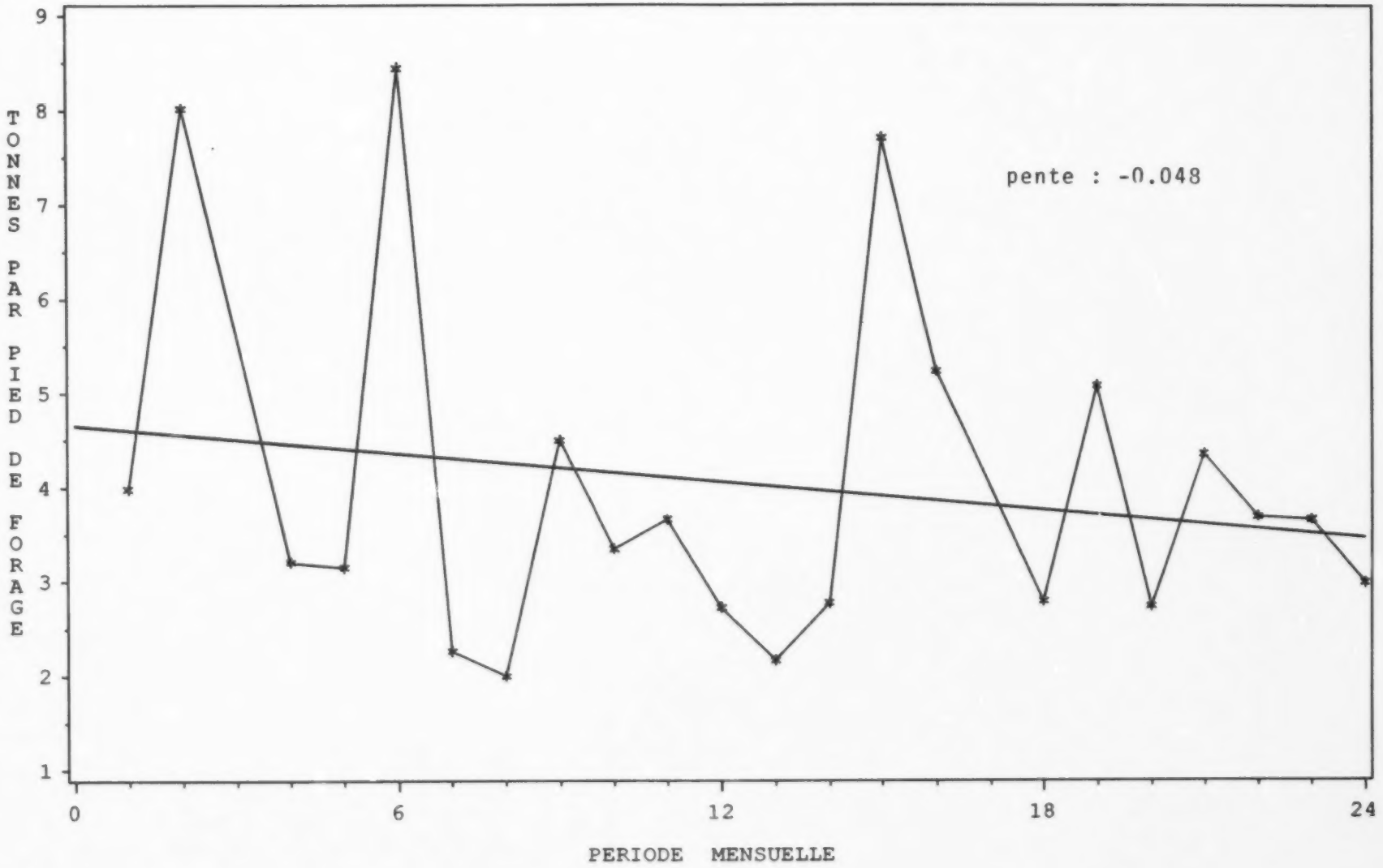


Figure E.22

FORAGE DE PRODUCTION VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

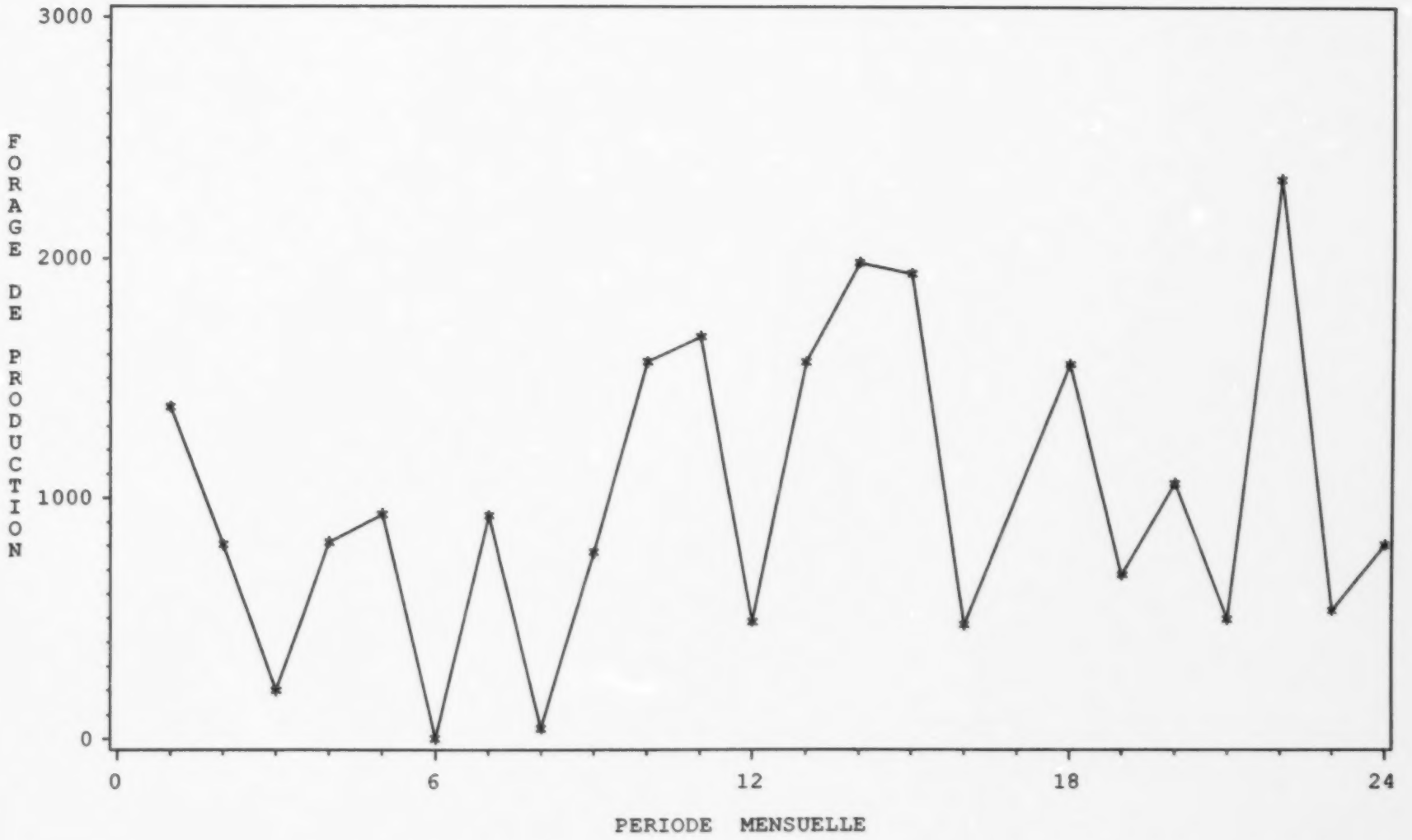


Figure E.23

FORAGE DE PRODUCTION EN PIEDS

FORAGE DE PRODUCTION VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

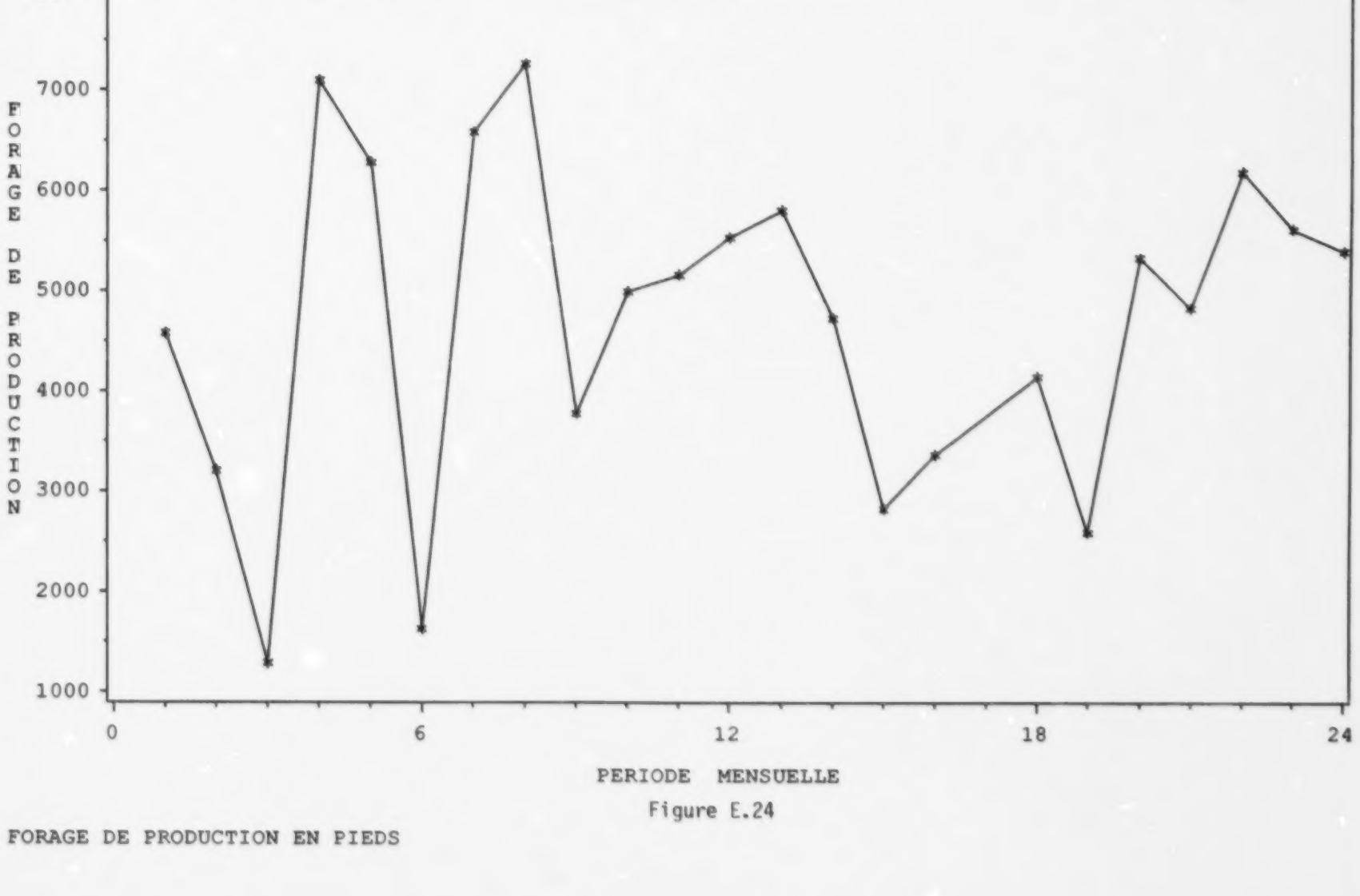


Figure E.24

FORAGE DE PRODUCTION EN PIEDS

FORAGE PAR QUART-HOMME VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

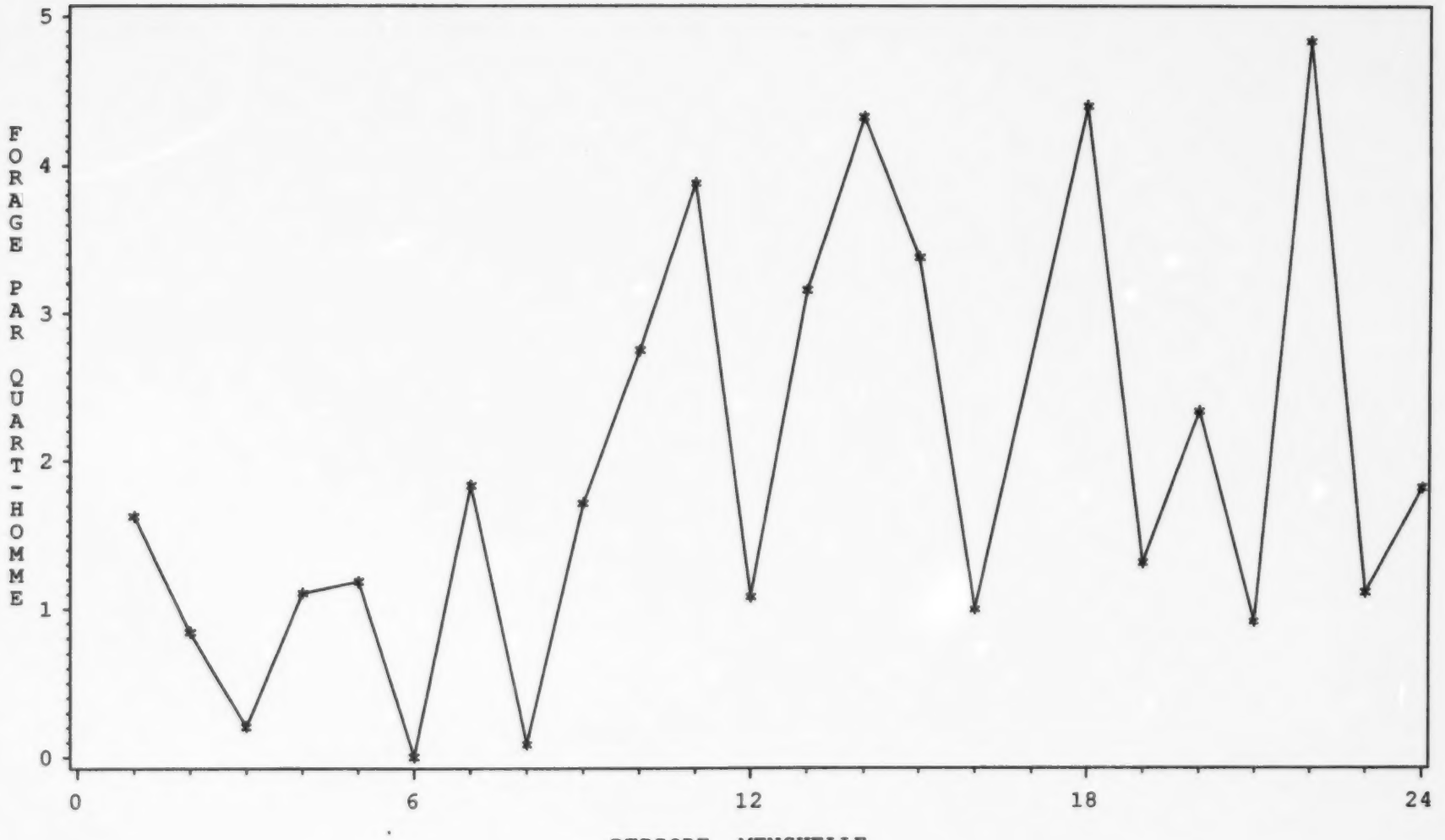


Figure E.25

FORAGE DE PRODUCTION EN PIEDS

FORAGE PAR QUART-HOMME VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

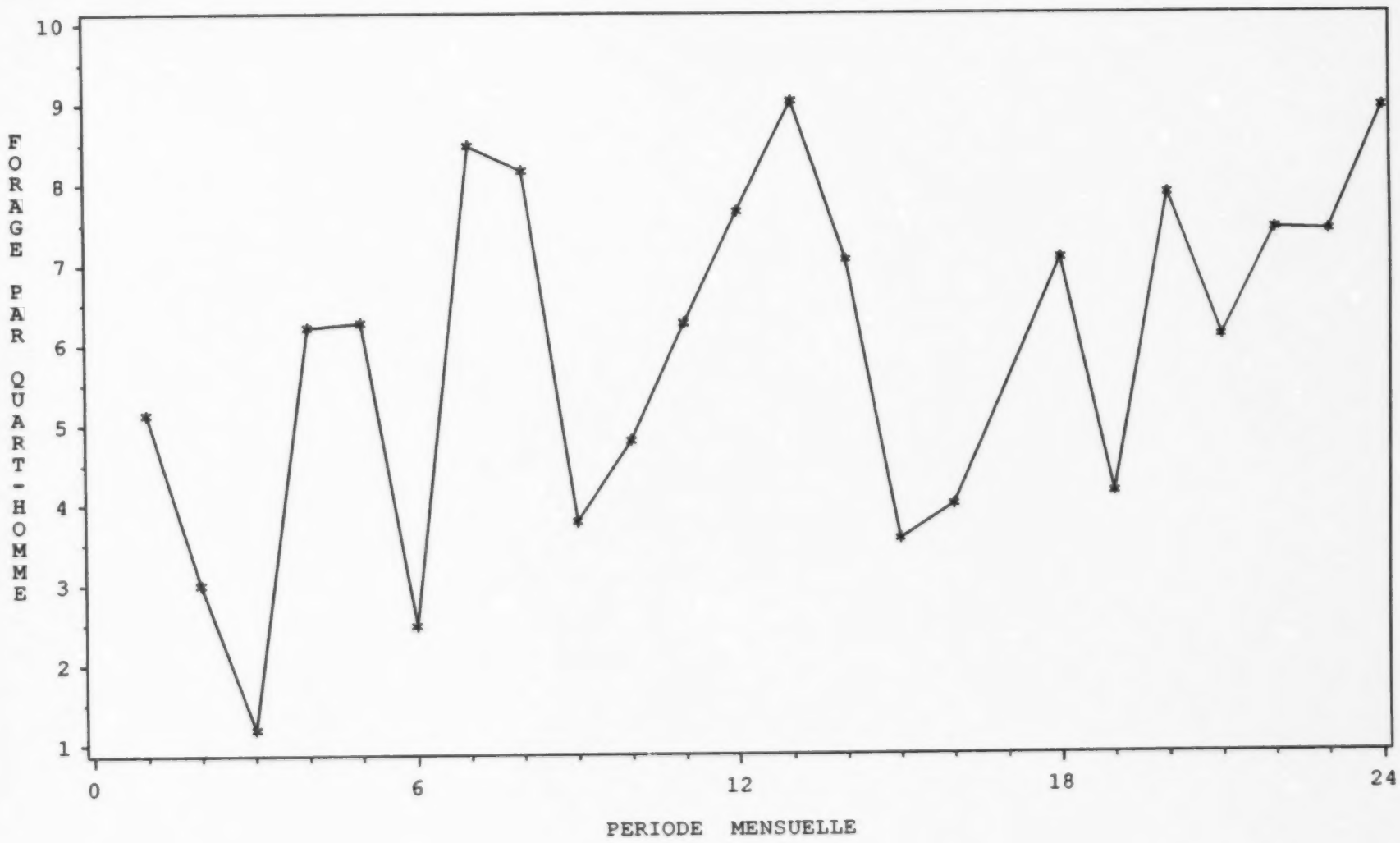


Figure E.26

FORAGE DE PRODUCTION EN PIEDS

PRIME AU RENDEMENT VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

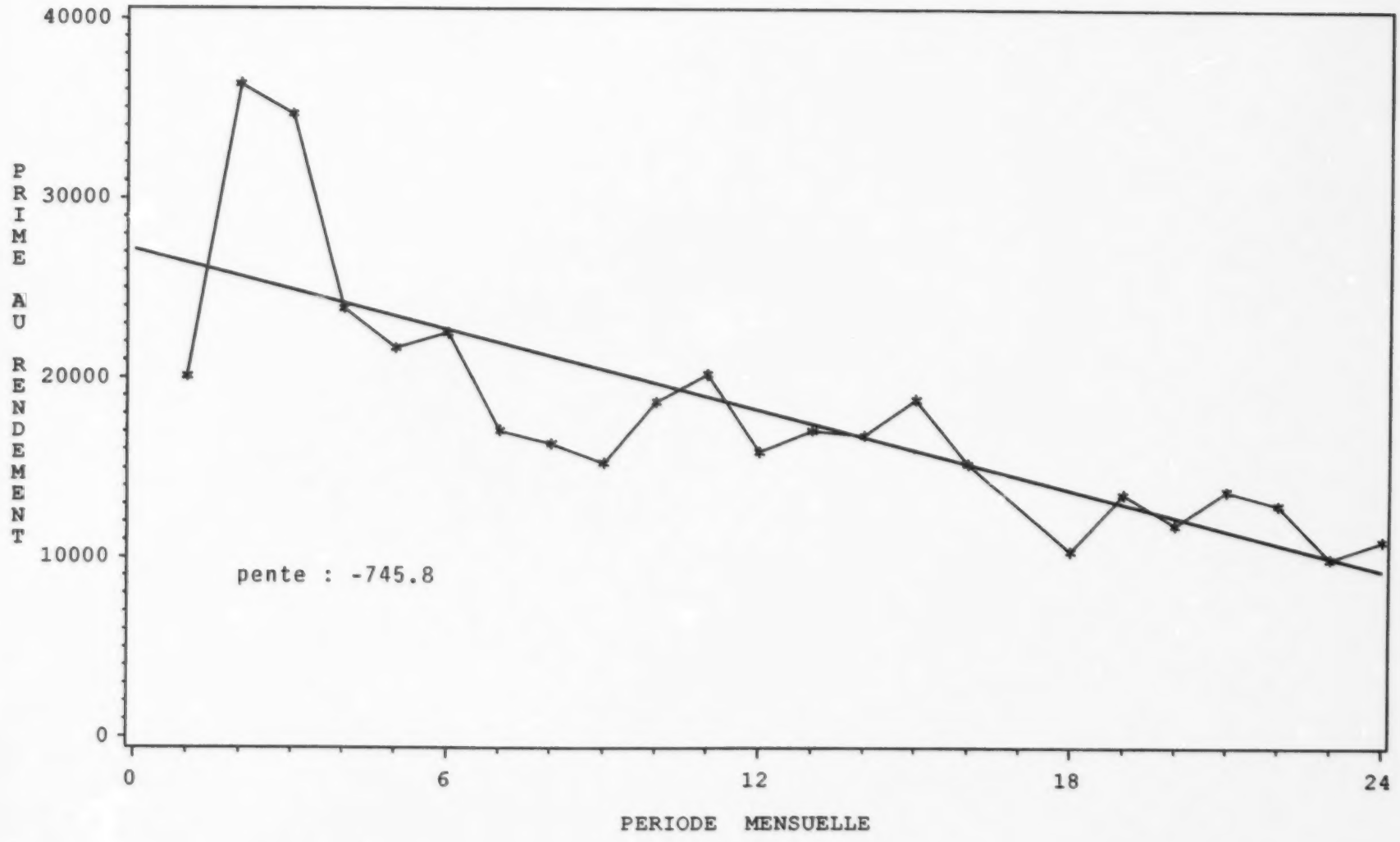


Figure E.27

PRIME AU RENDEMENT: $ COURANTS

PRIME AU RENDEMENT VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

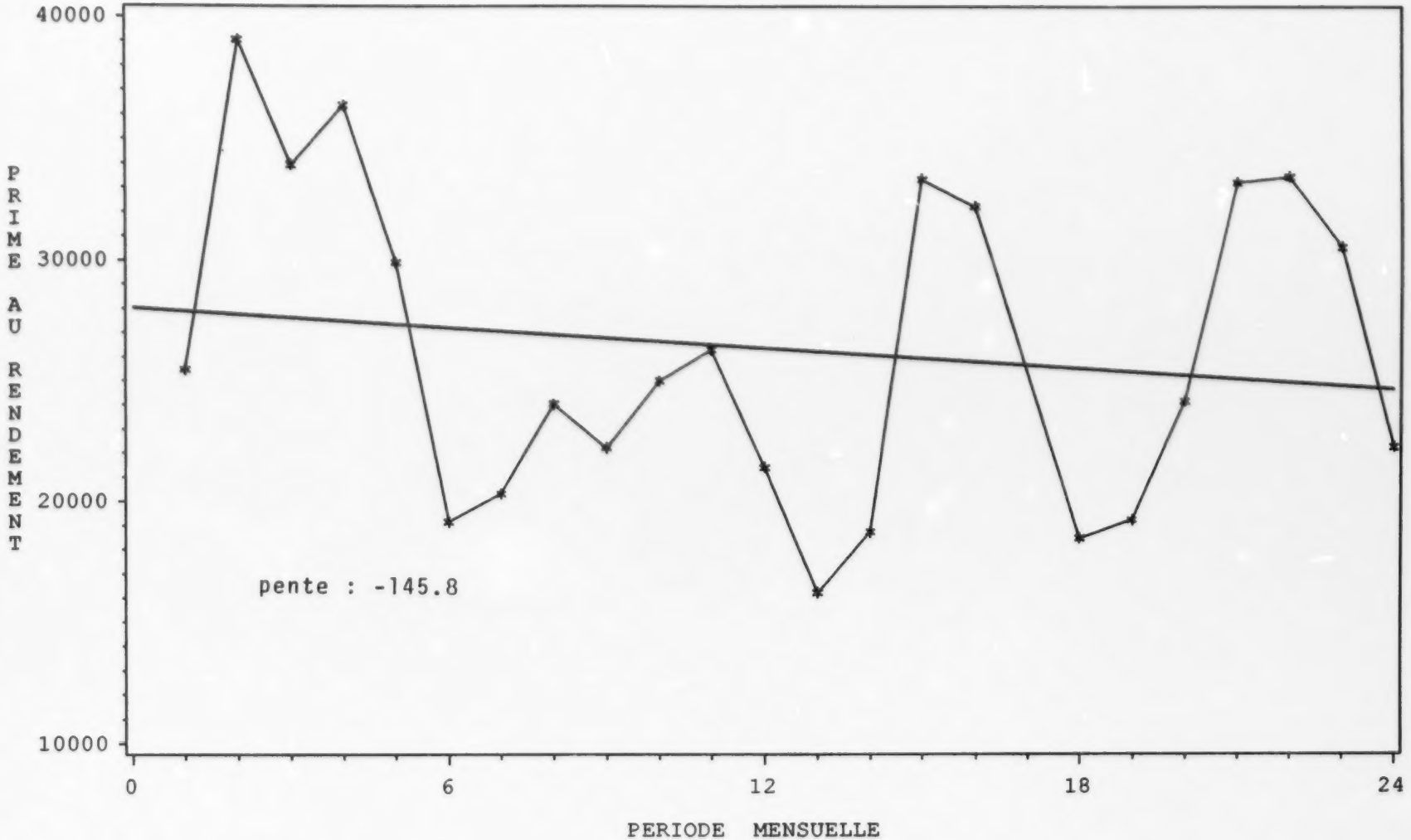


Figure E.28

PRIME AU RENDEMENT: $ COURANTS

PRIME AU RENDEMENT VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

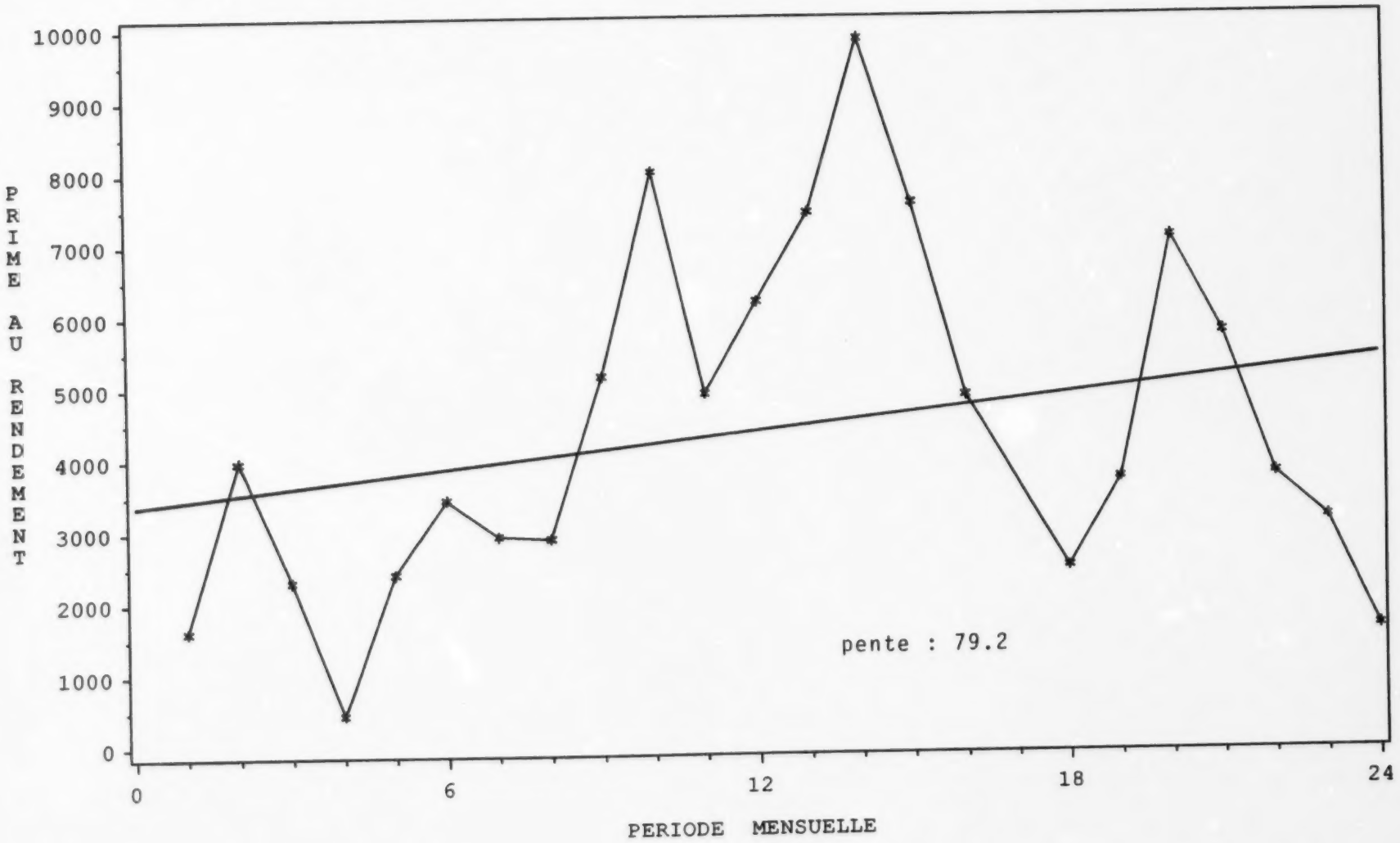


Figure E.29

PRIME AU RENDEMENT: $ COURANTS

BONI PAR TONNE VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

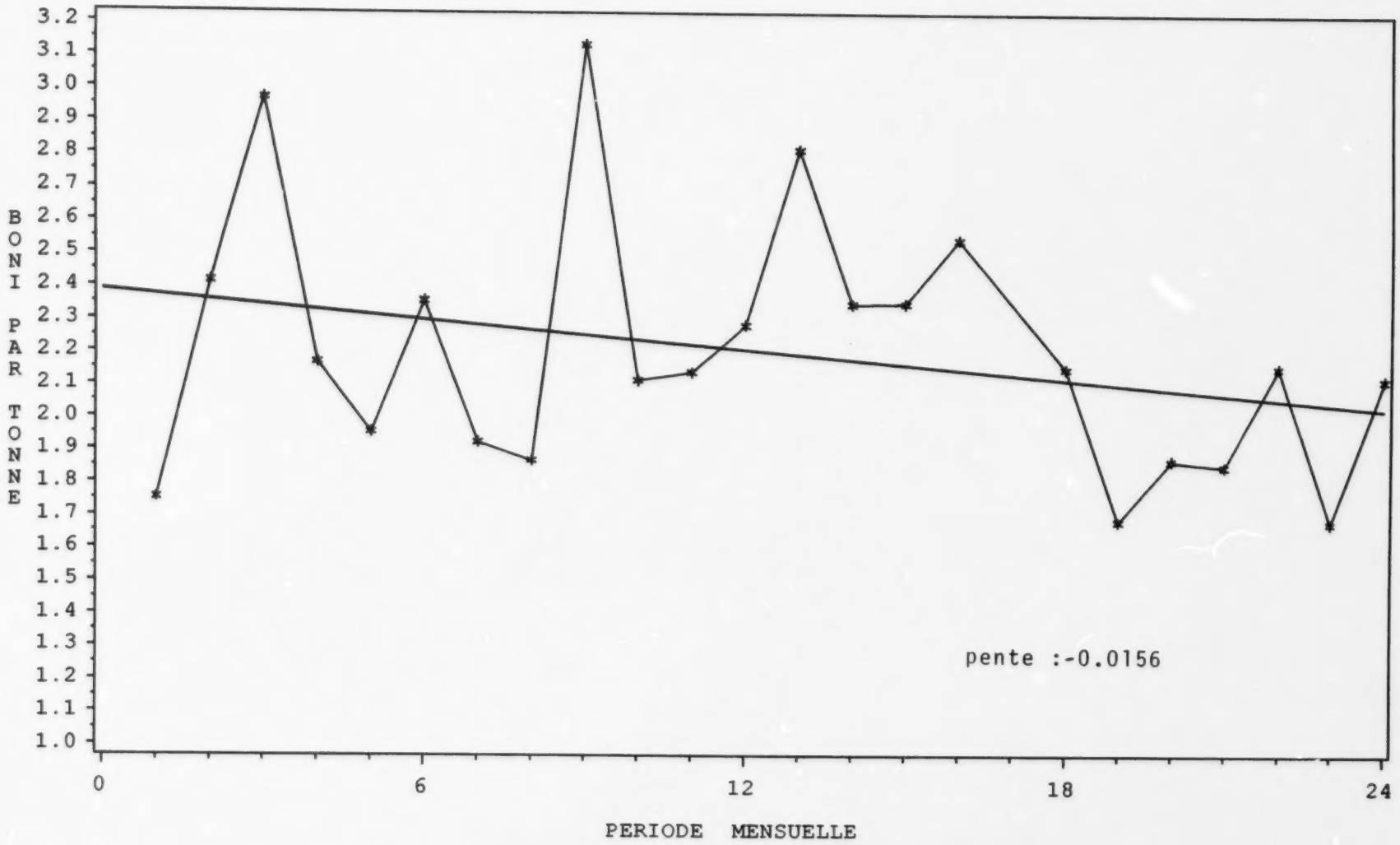


Figure E.30

PRIME AU RENDEMENT: $ COURANTS

BONI PAR TONNE VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

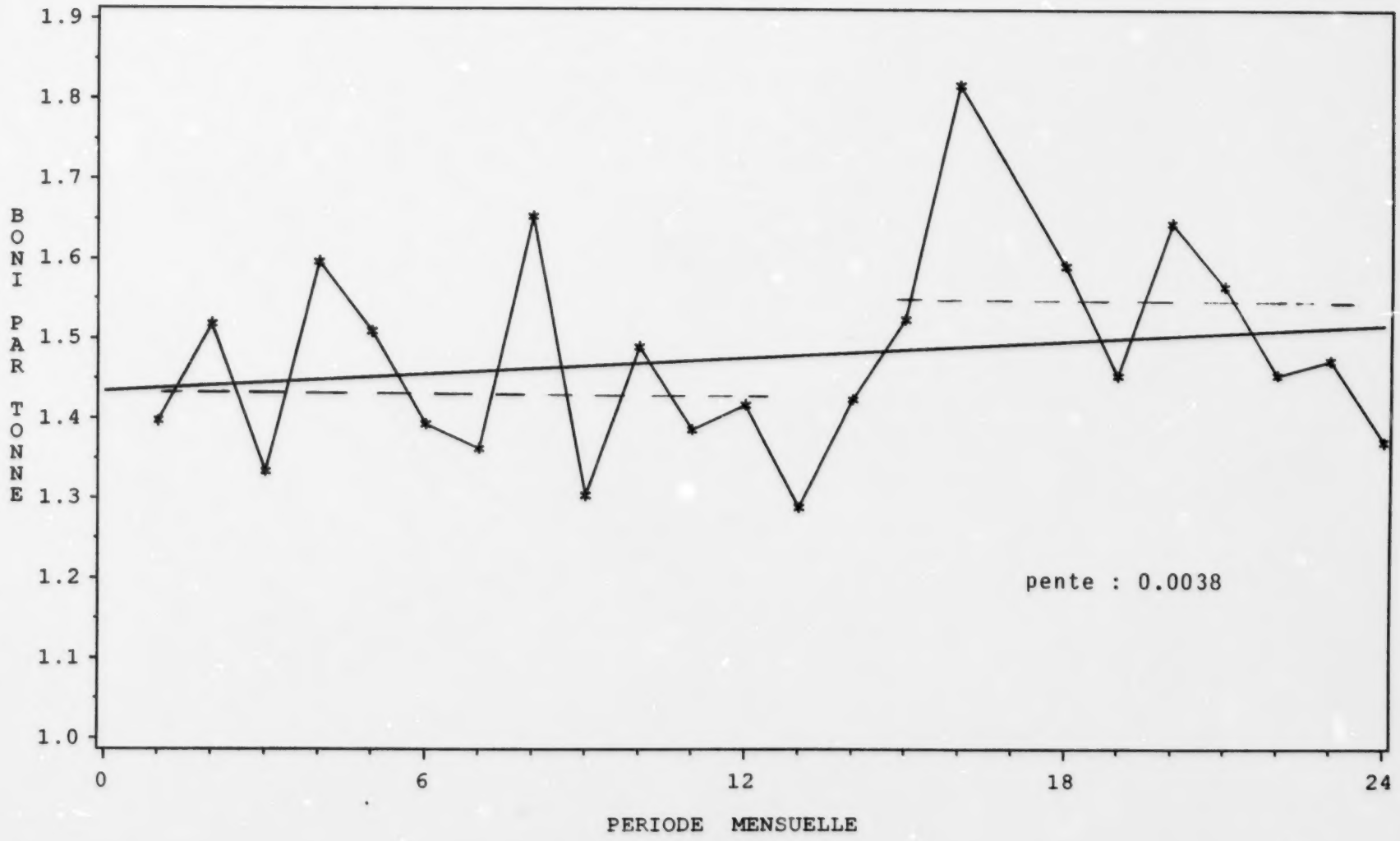


Figure E.31

PRIME AU RENDEMENT: $ COURANTS

BONI PAR TONNE VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

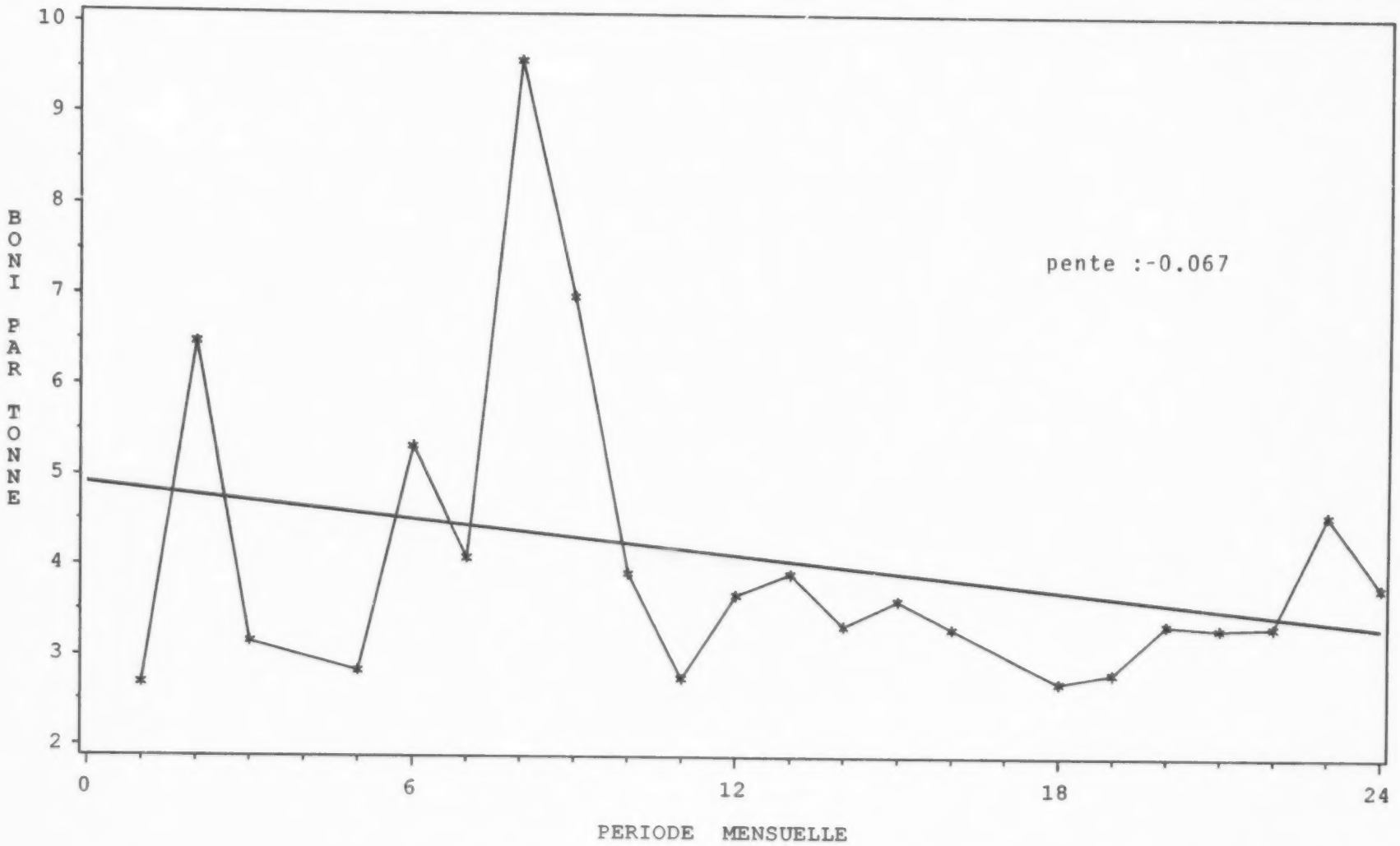


Figure E.32

PRIME AU RENDEMENT: $ COURANTS

NOMBRE DE BOULONS INSTALLES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

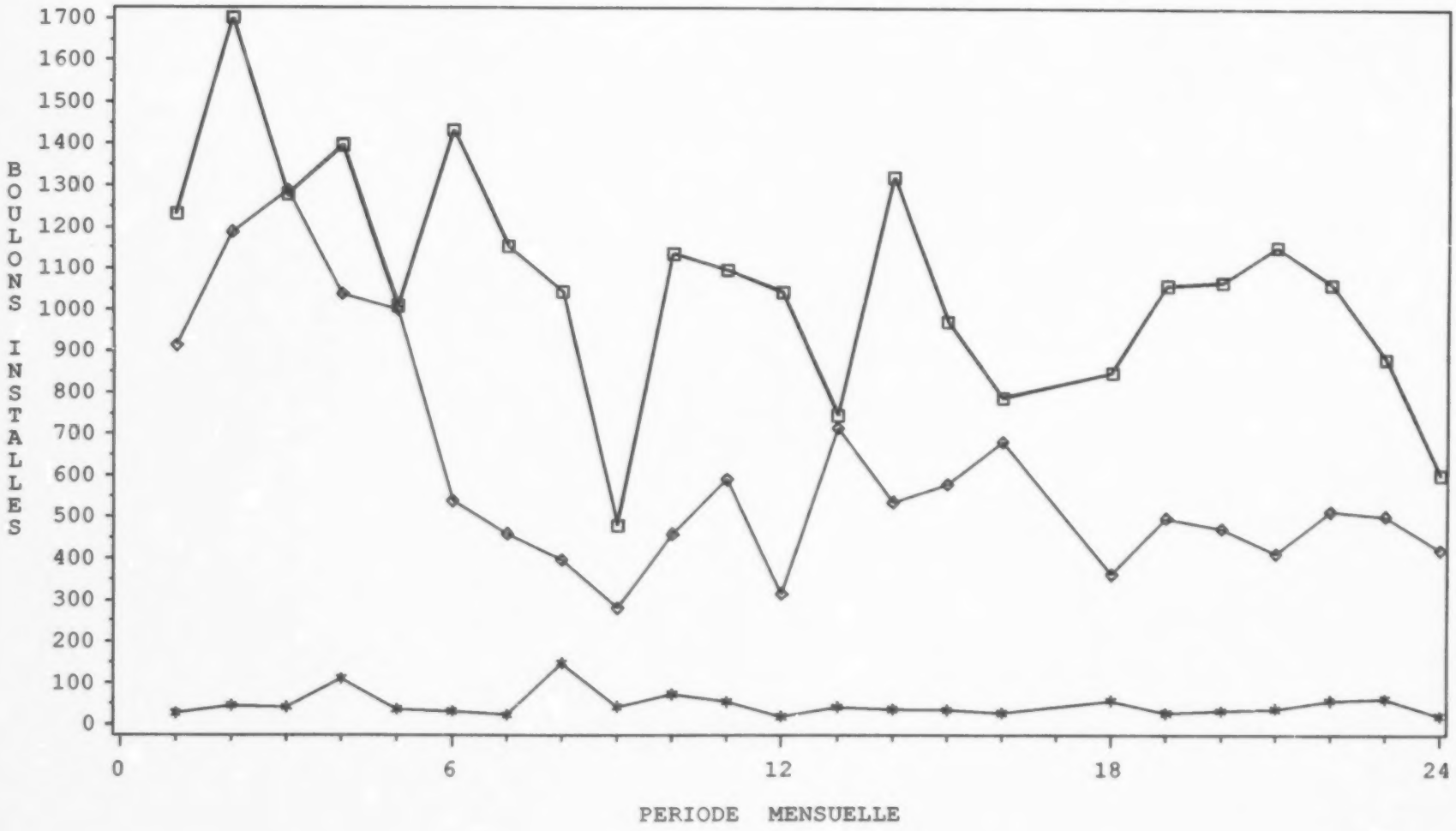


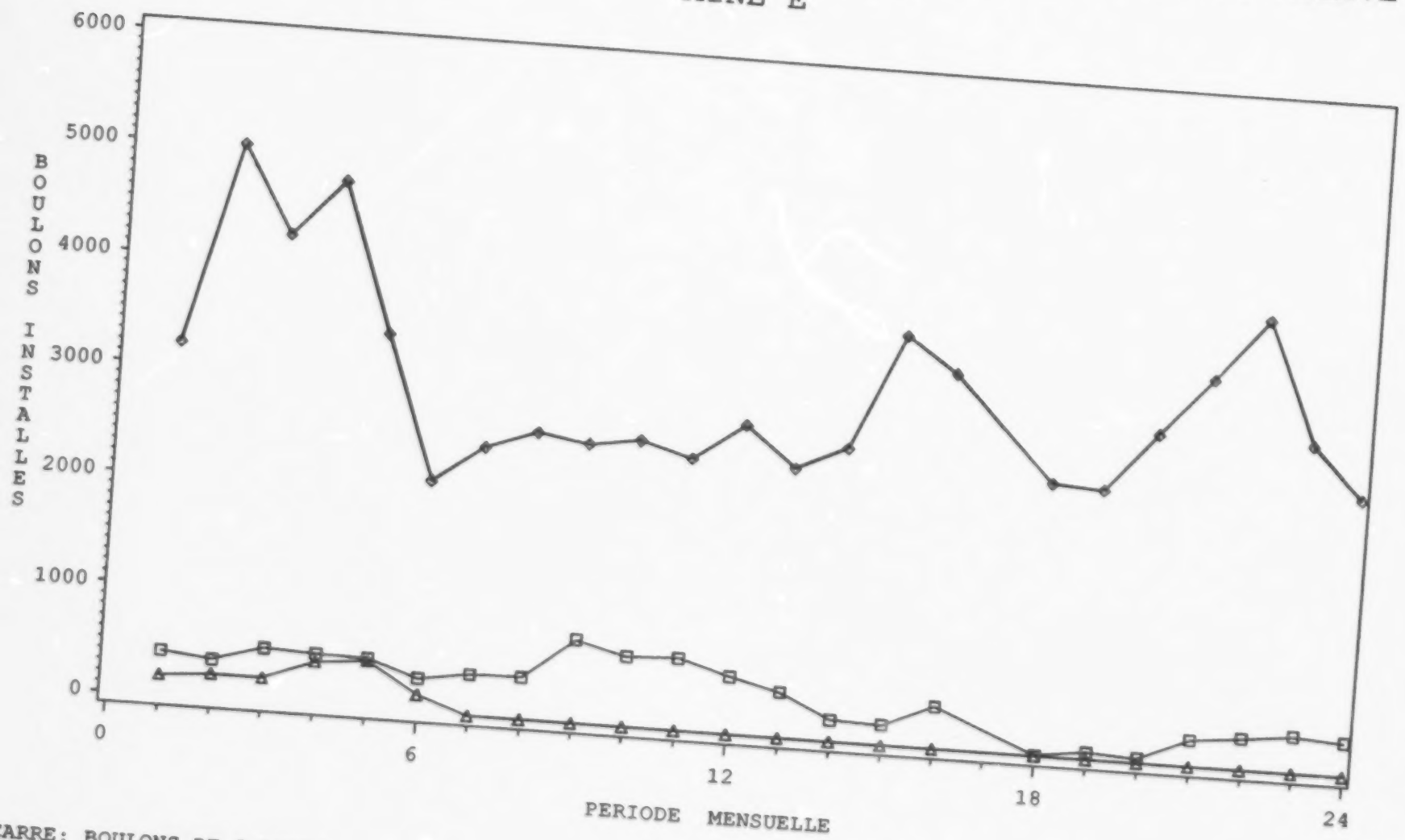
Figure E.33

ETOILE: BOULONS DE 9 PIEDS
CARRE: BOULONS DE 7 PIEDS
LOSANGE: BOULONS DE 5 PIEDS

NOMBRE DE BOULONS INSTALLES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E



CARRE: BOULONS DE 7 PIEDS
LOSANGE: BOULONS DE 5 PIEDS
TRIANGLE: BOULONS DE 4 PIEDS

Figure E.34

NOMBRE DE BOULONS INSTALLES VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

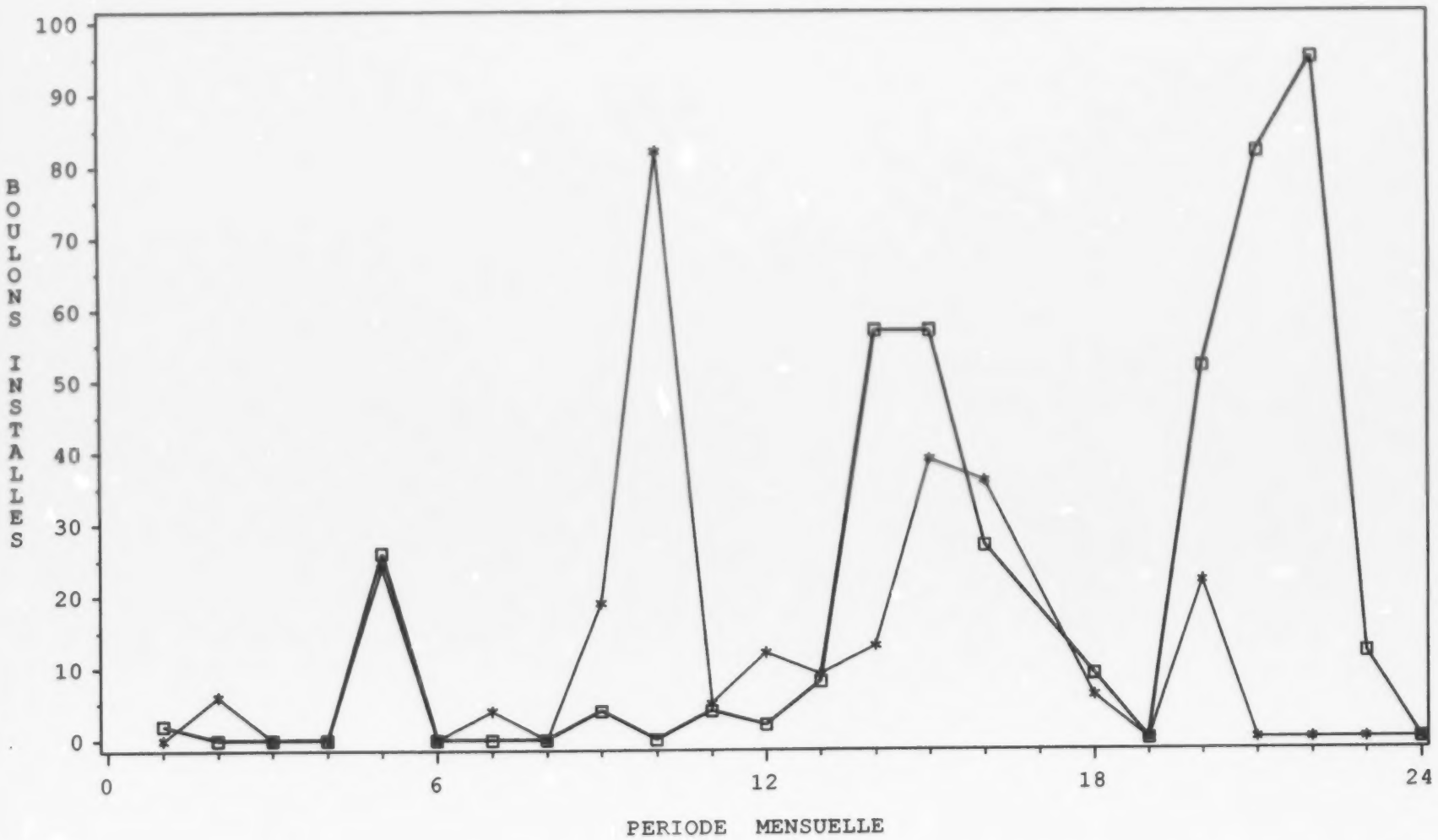


Figure E.35

ETOILE: BOULONS DE 7 PIEDS
CARRE: BOULONS DE 5 PIEDS

NOMBRE DE BOULONS/TONNE VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

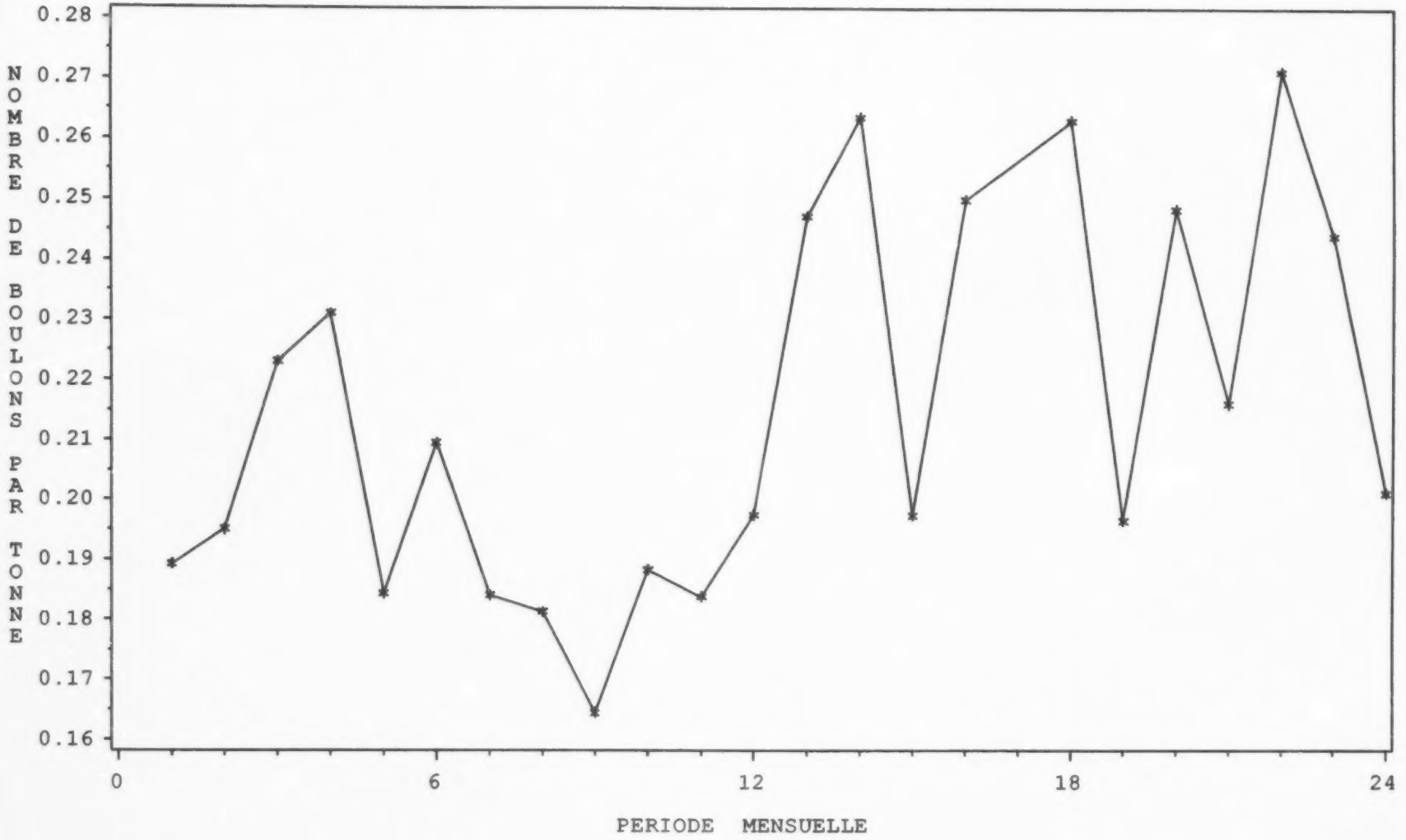


Figure E.36

NOMBRE DE BOULONS/TONNE VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

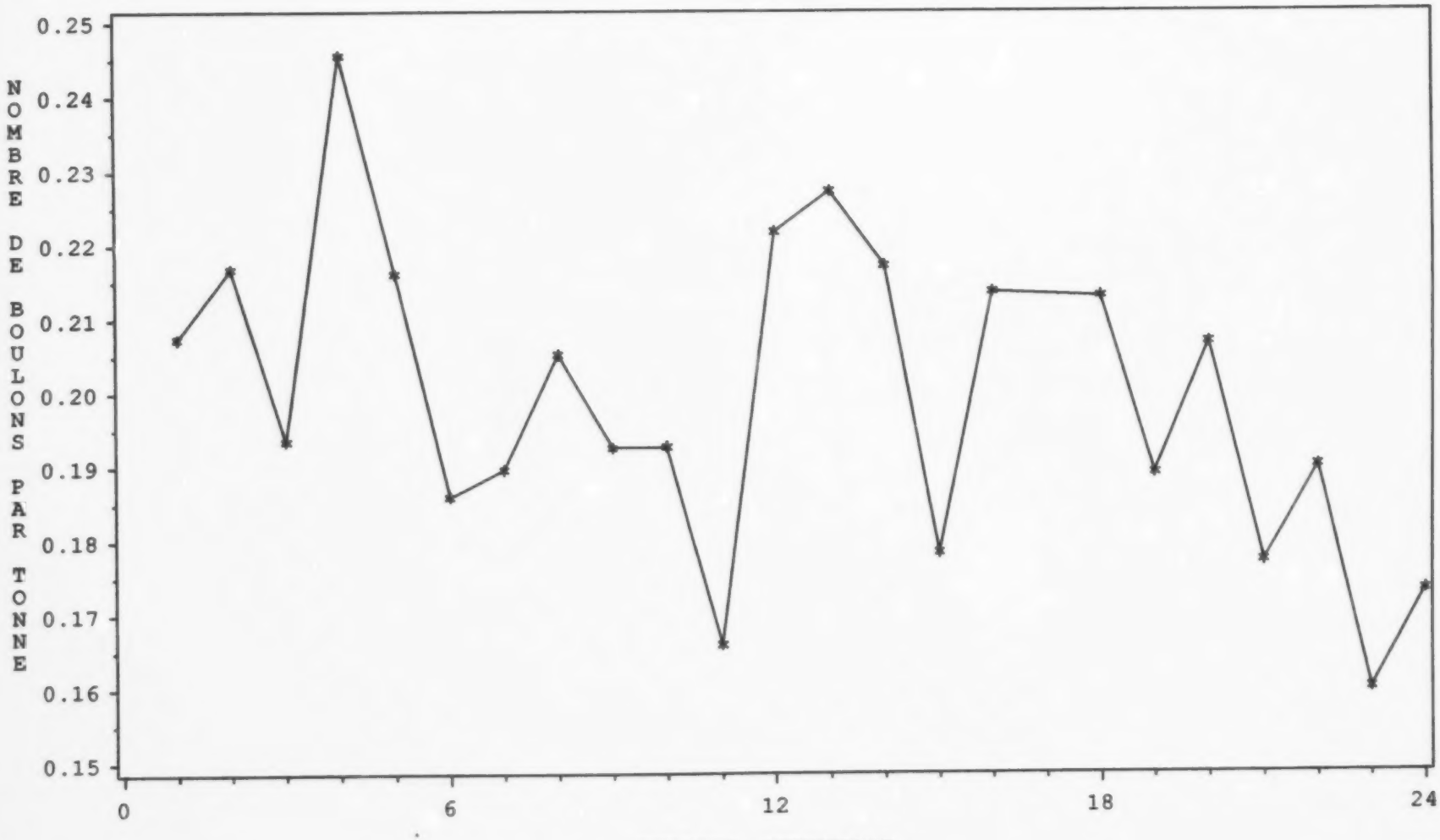


Figure E.37

NOMBRE DE BOULONS/TONNE VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

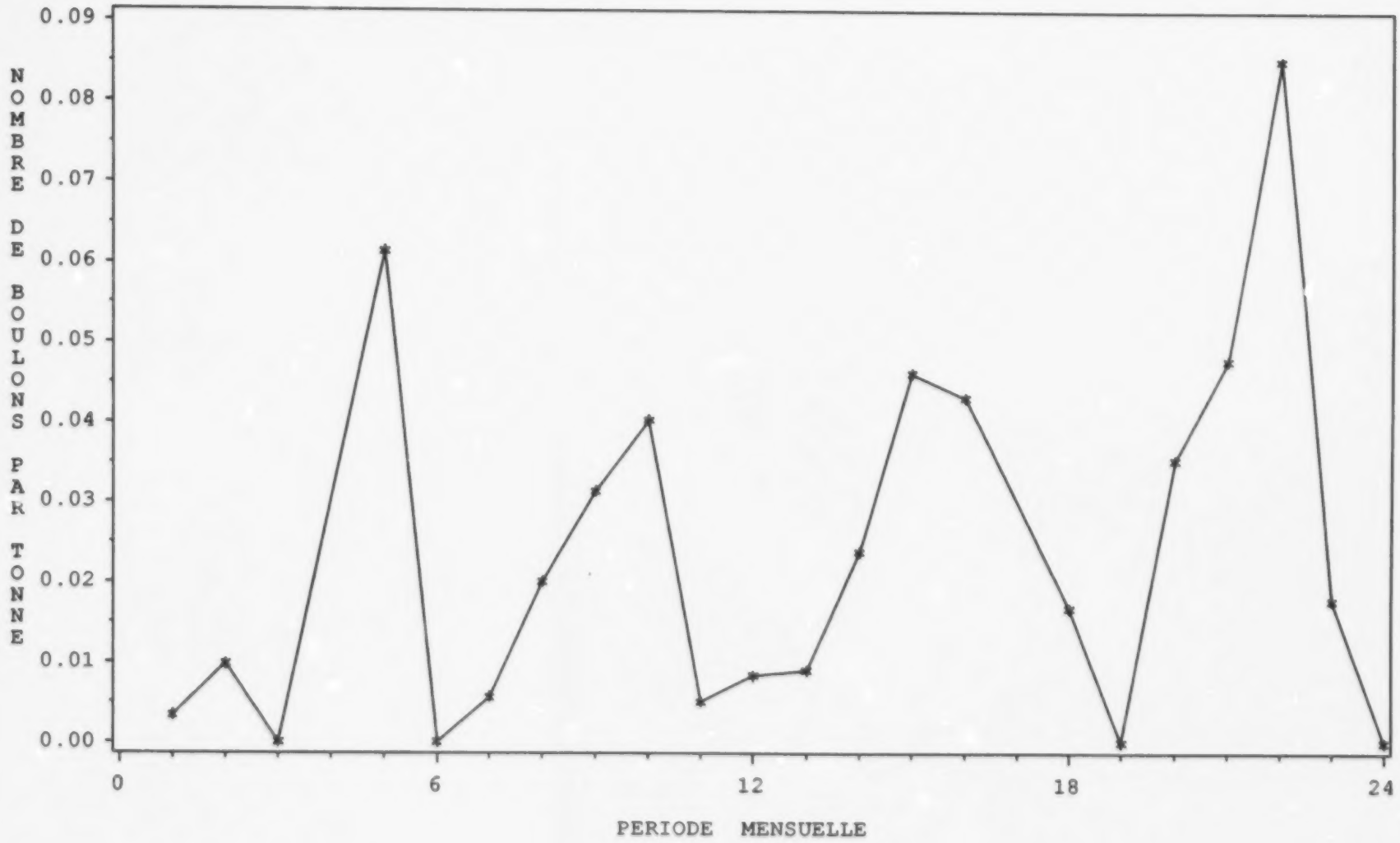


Figure E.38

NOMBRE DE POTEAUX INSTALLES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

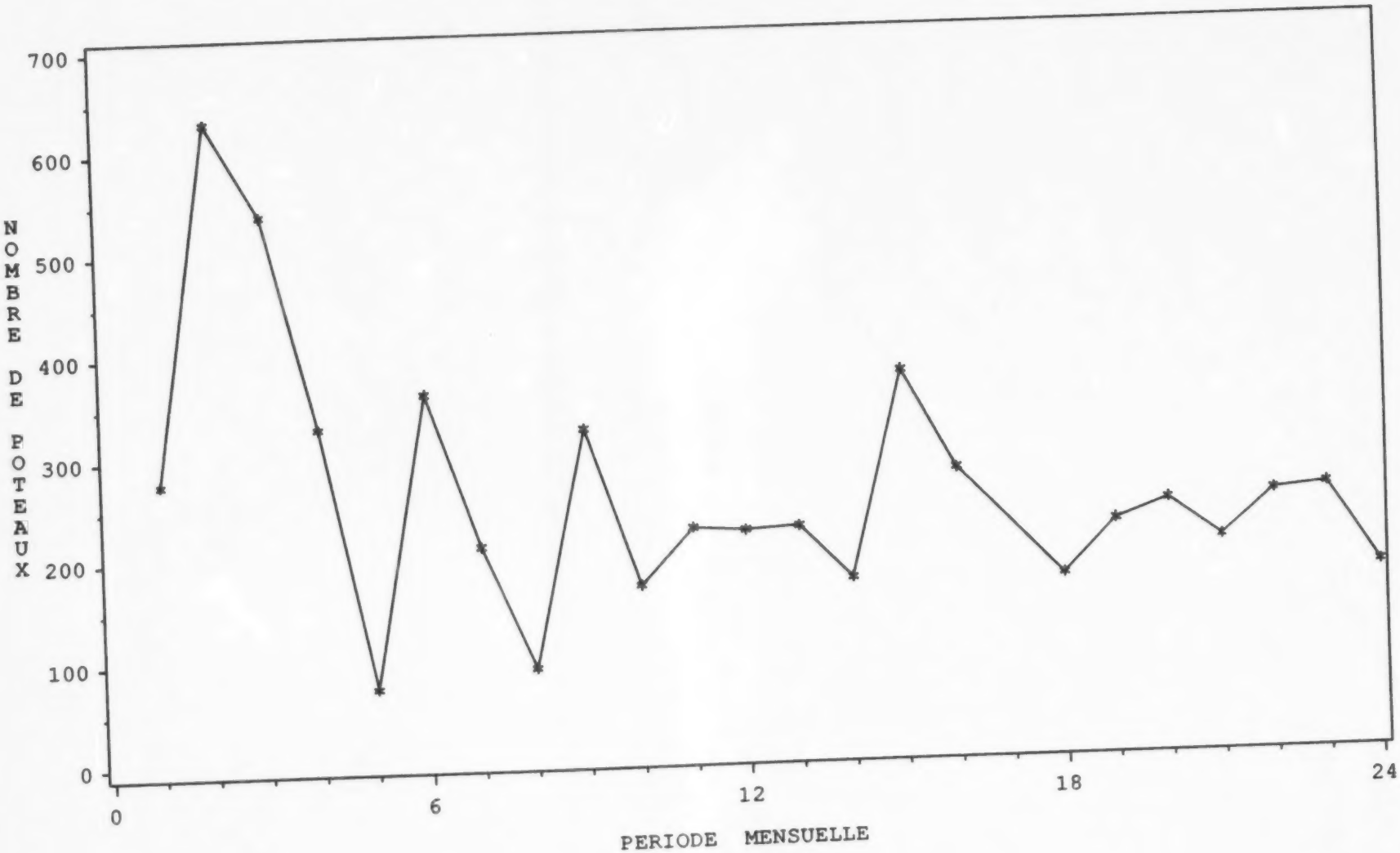


Figure E.39

NOMBRE DE POTEAUX INSTALLES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

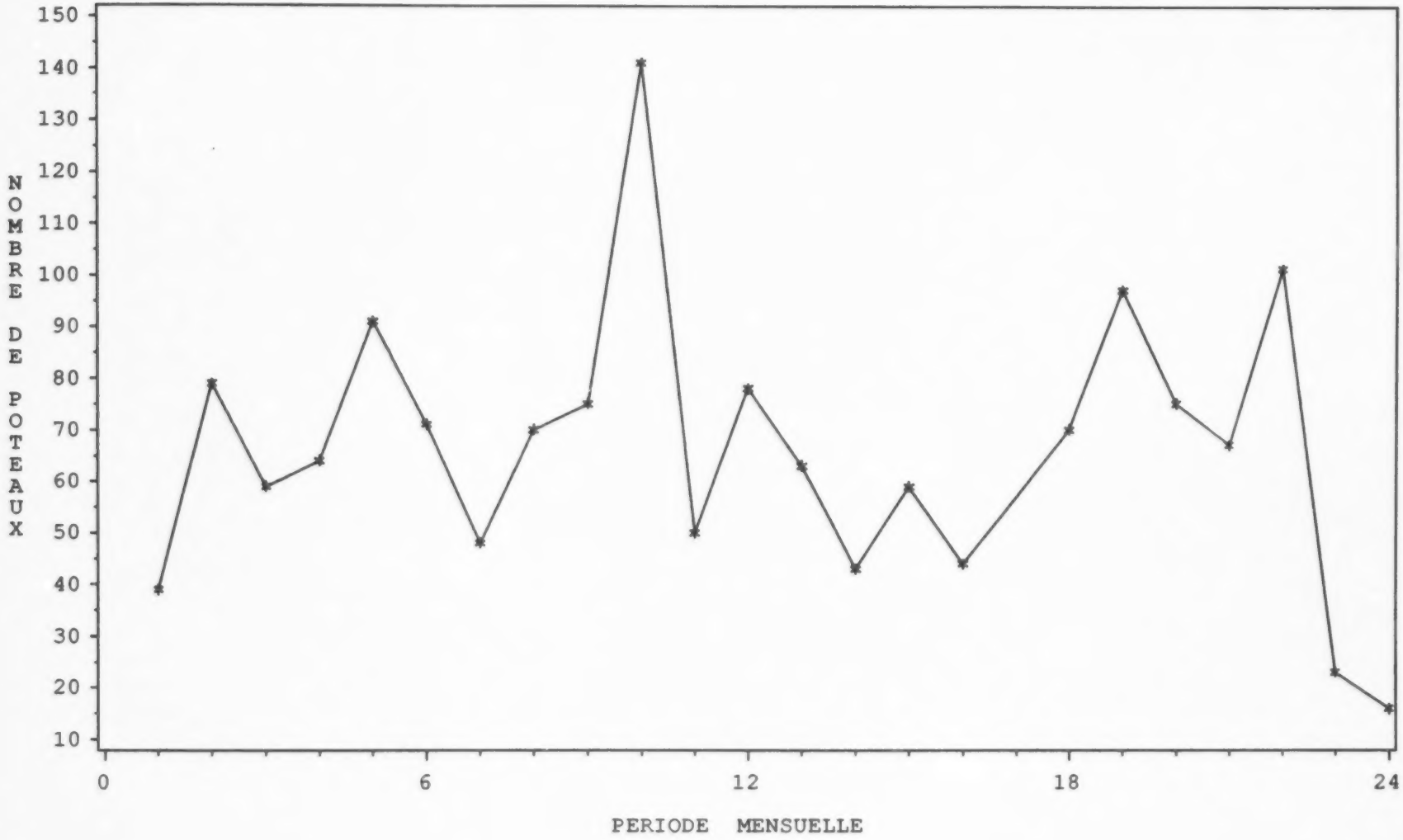


Figure E.40

NOMBRE DE POTEAUX INSTALLES VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

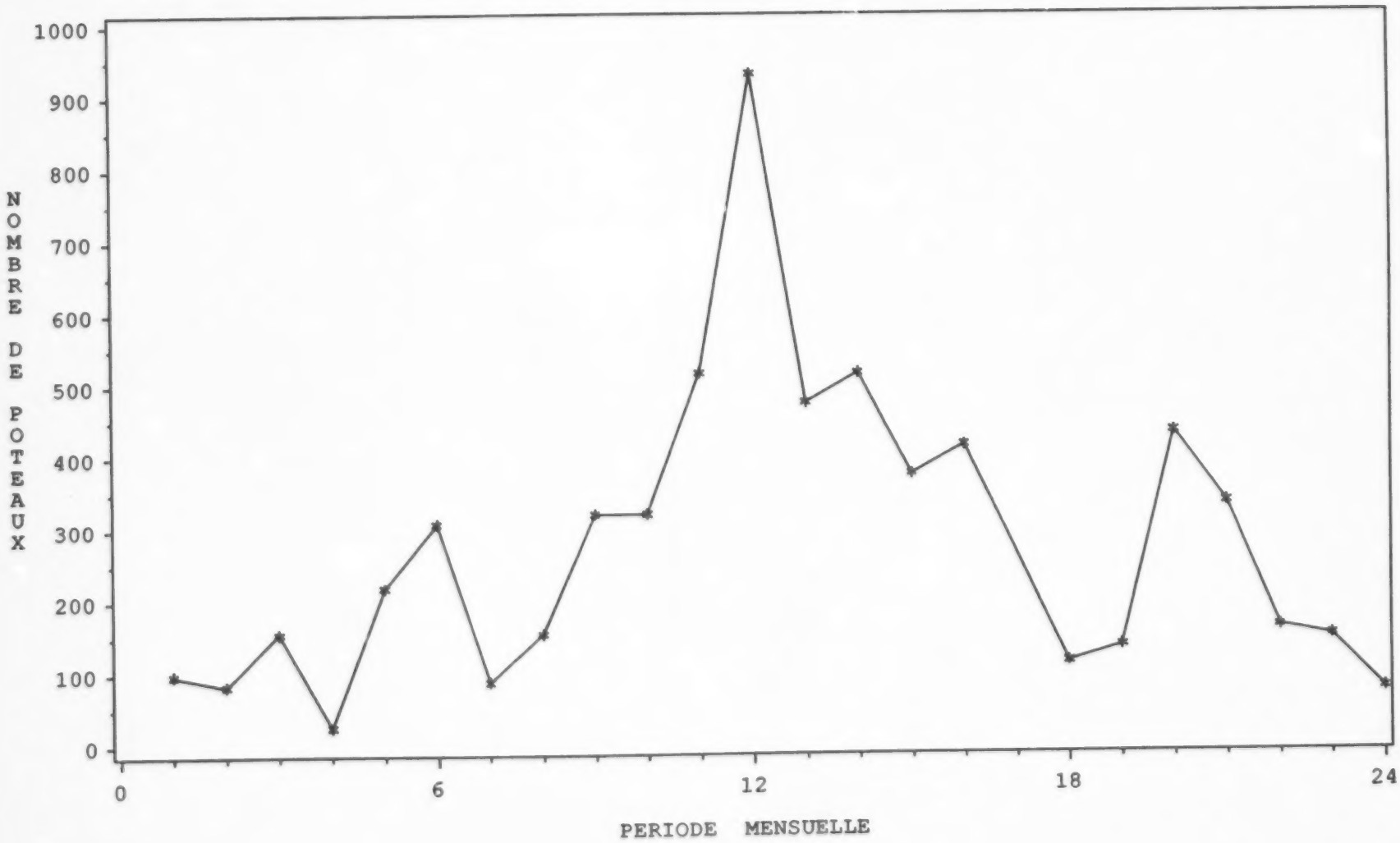


Figure E.41

NOMBRE DE TONNES DEBLAYEES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

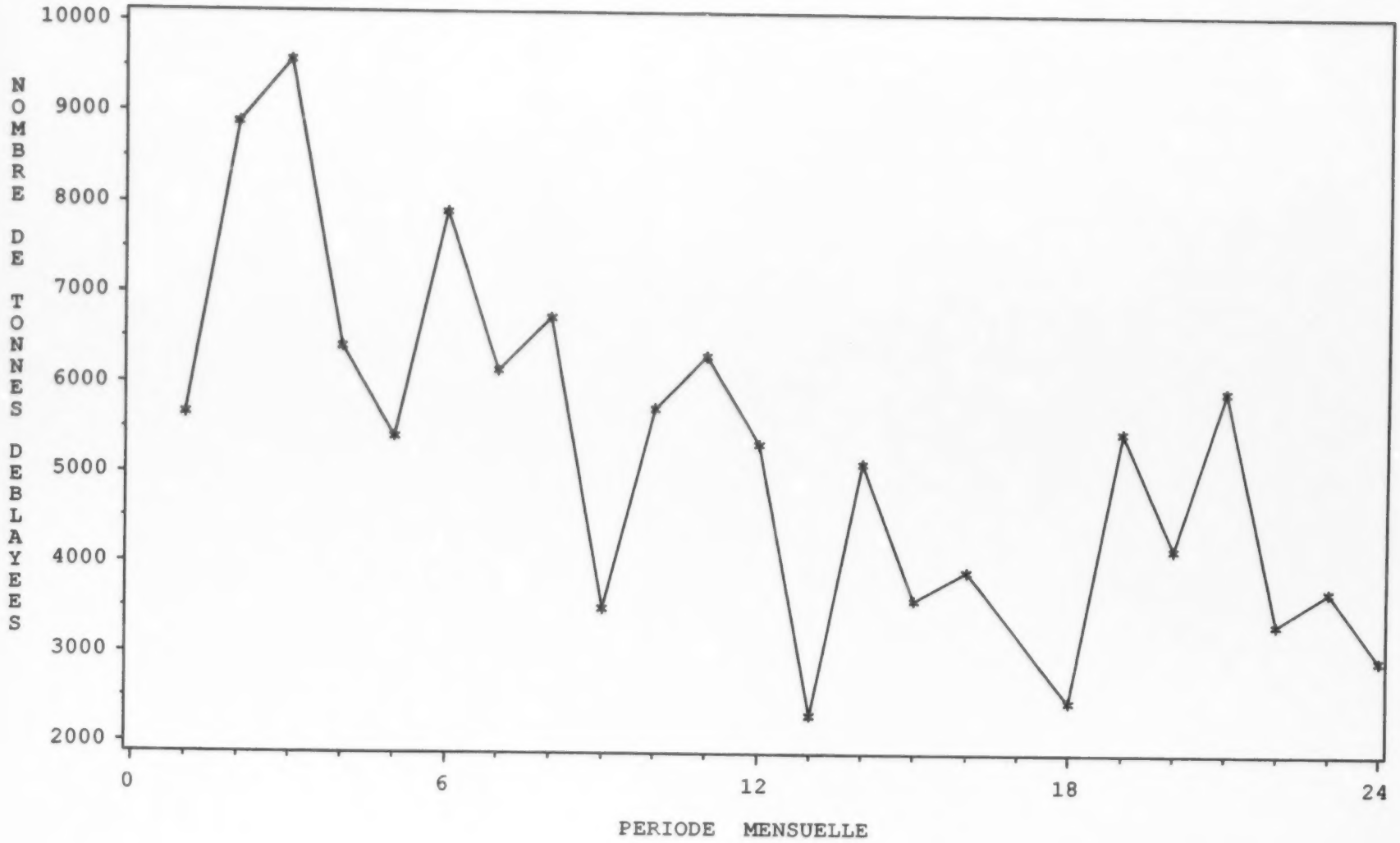


Figure E.42

NOMBRE DE TONNES DEBLAYEES VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

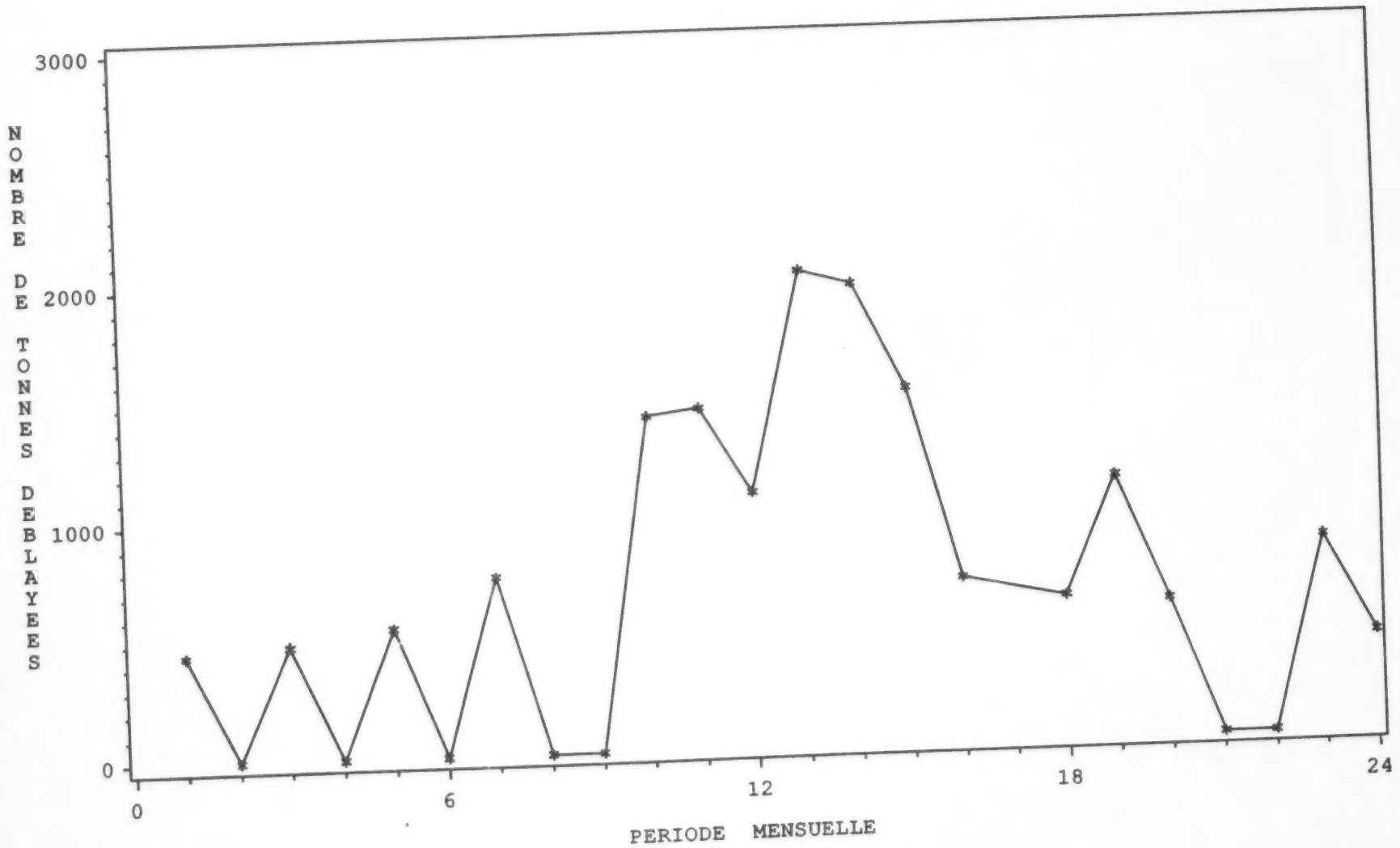


Figure E.43

NOMBRE DE TONNES RACLEES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

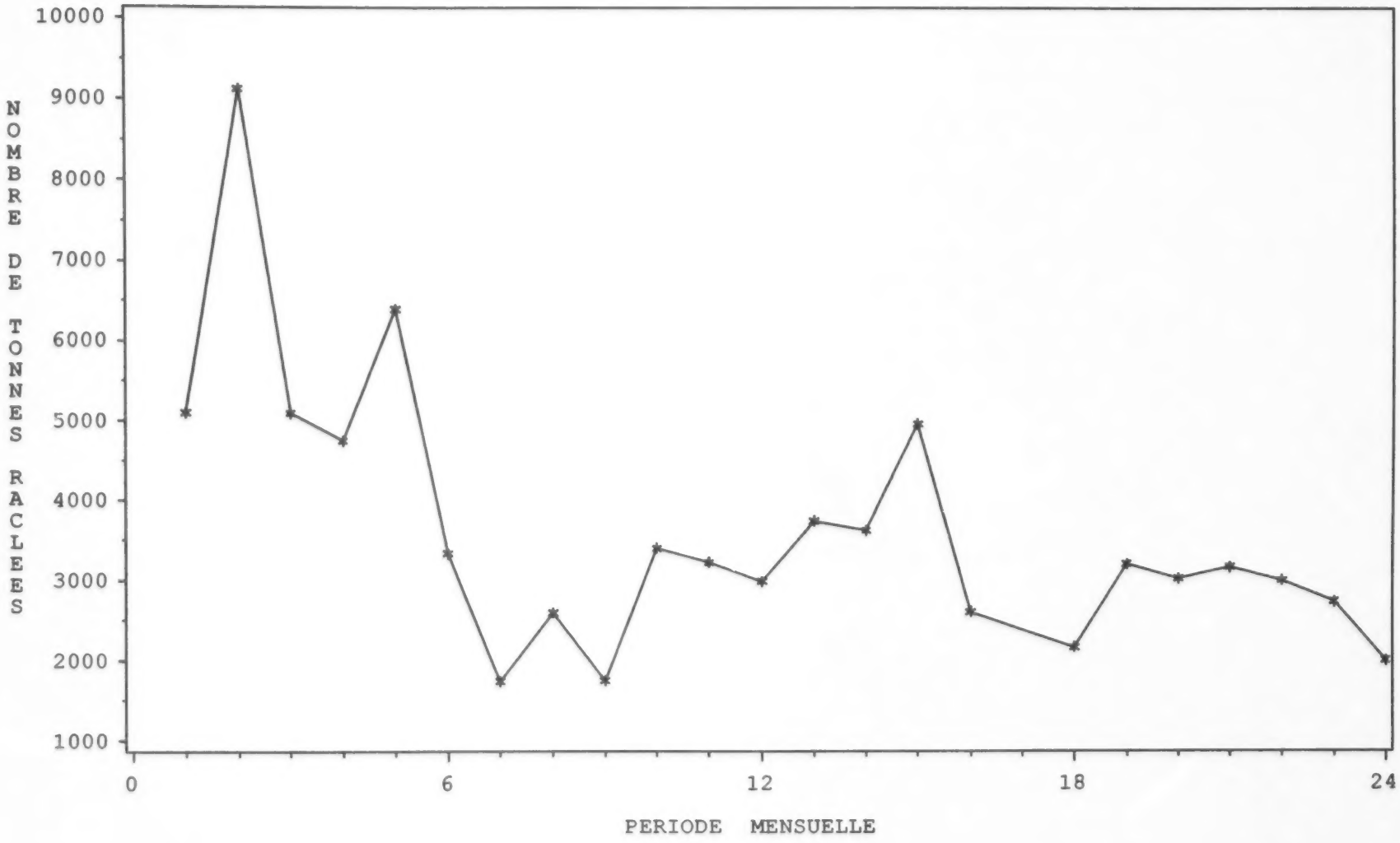


Figure E.44

NOMBRE DE TONNES RACLEES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

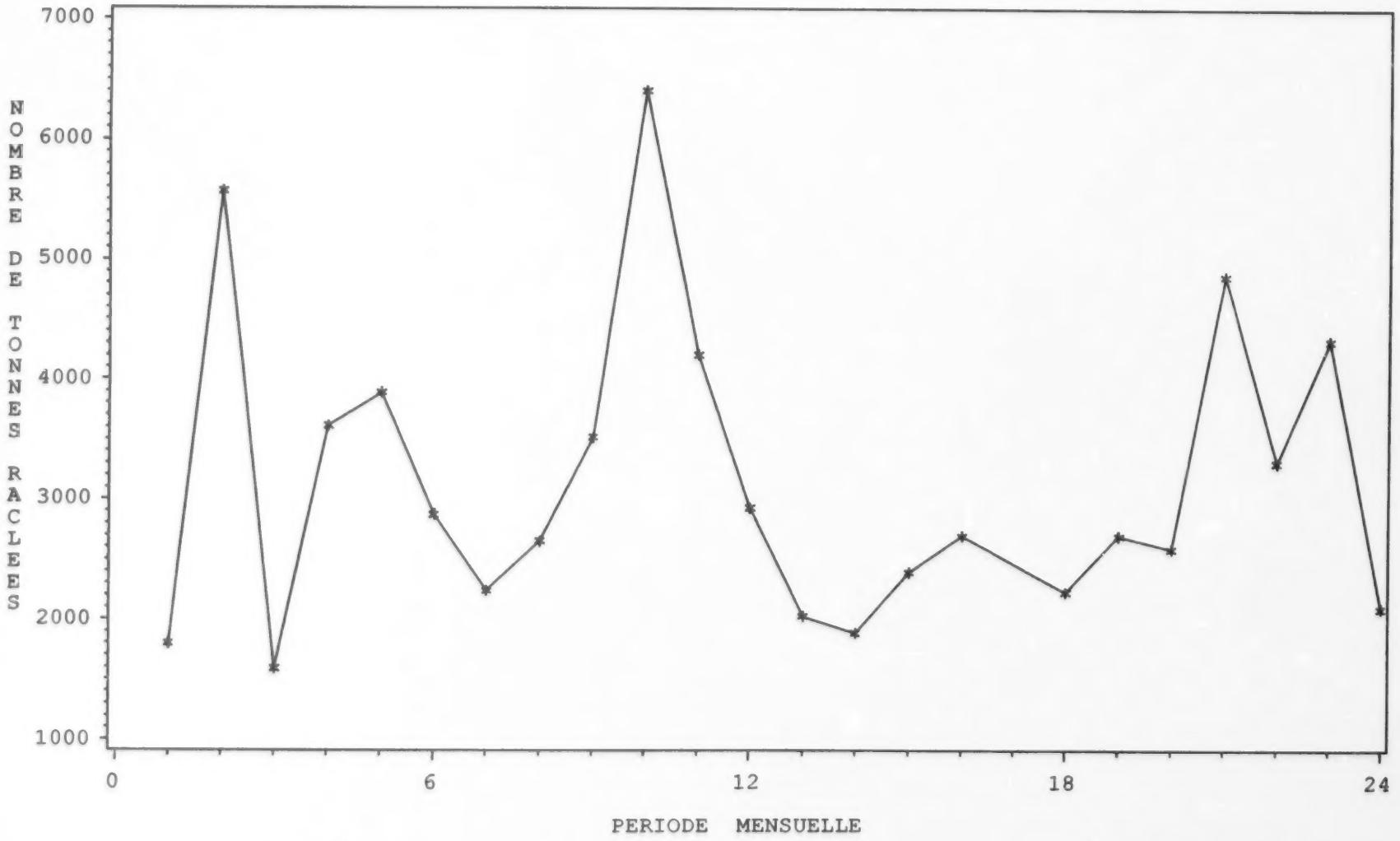


Figure E.45

NOMBRE DE TONNES RACLEES VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

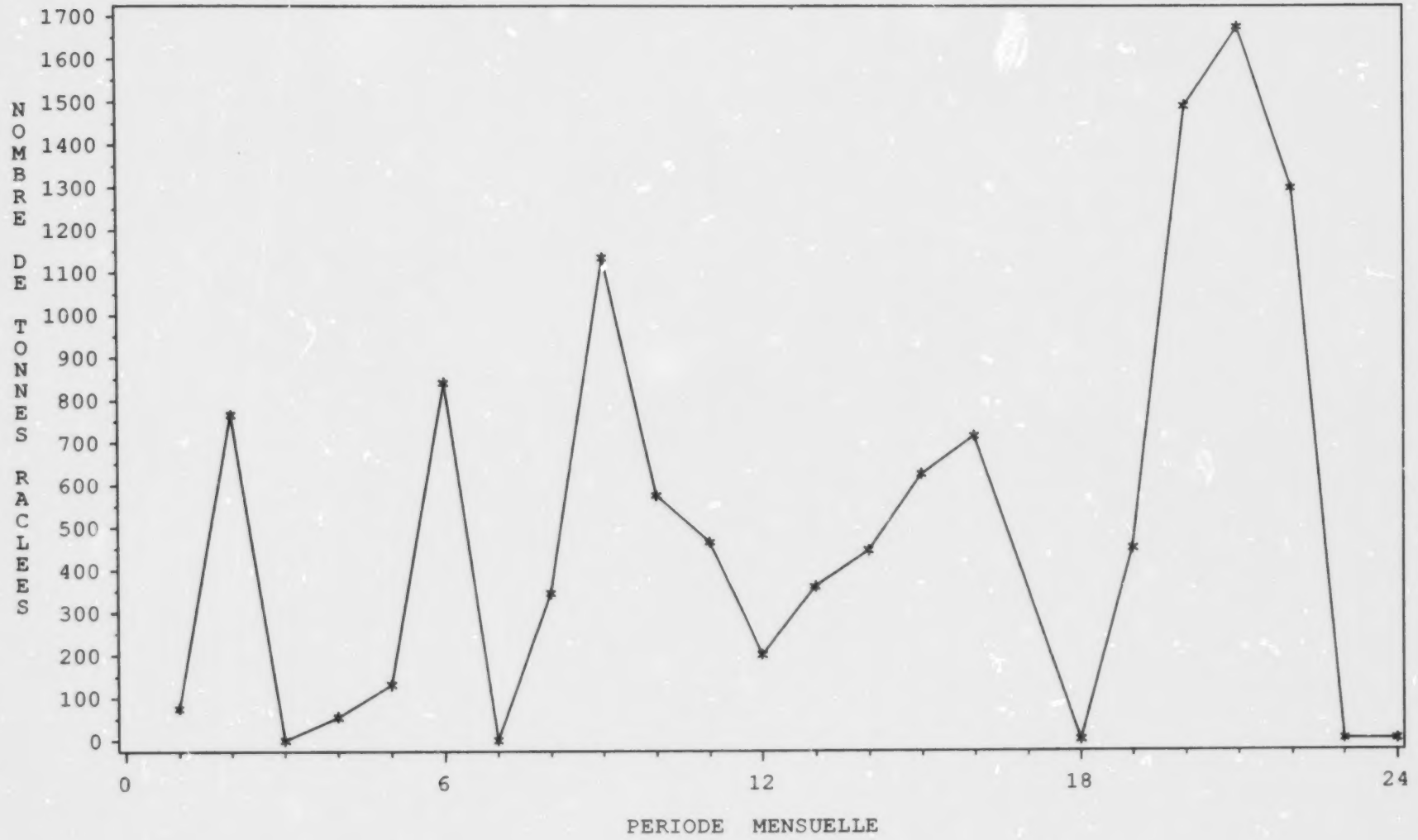


Figure E.46

AIRES DE CLOTURES A REMBLAI VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

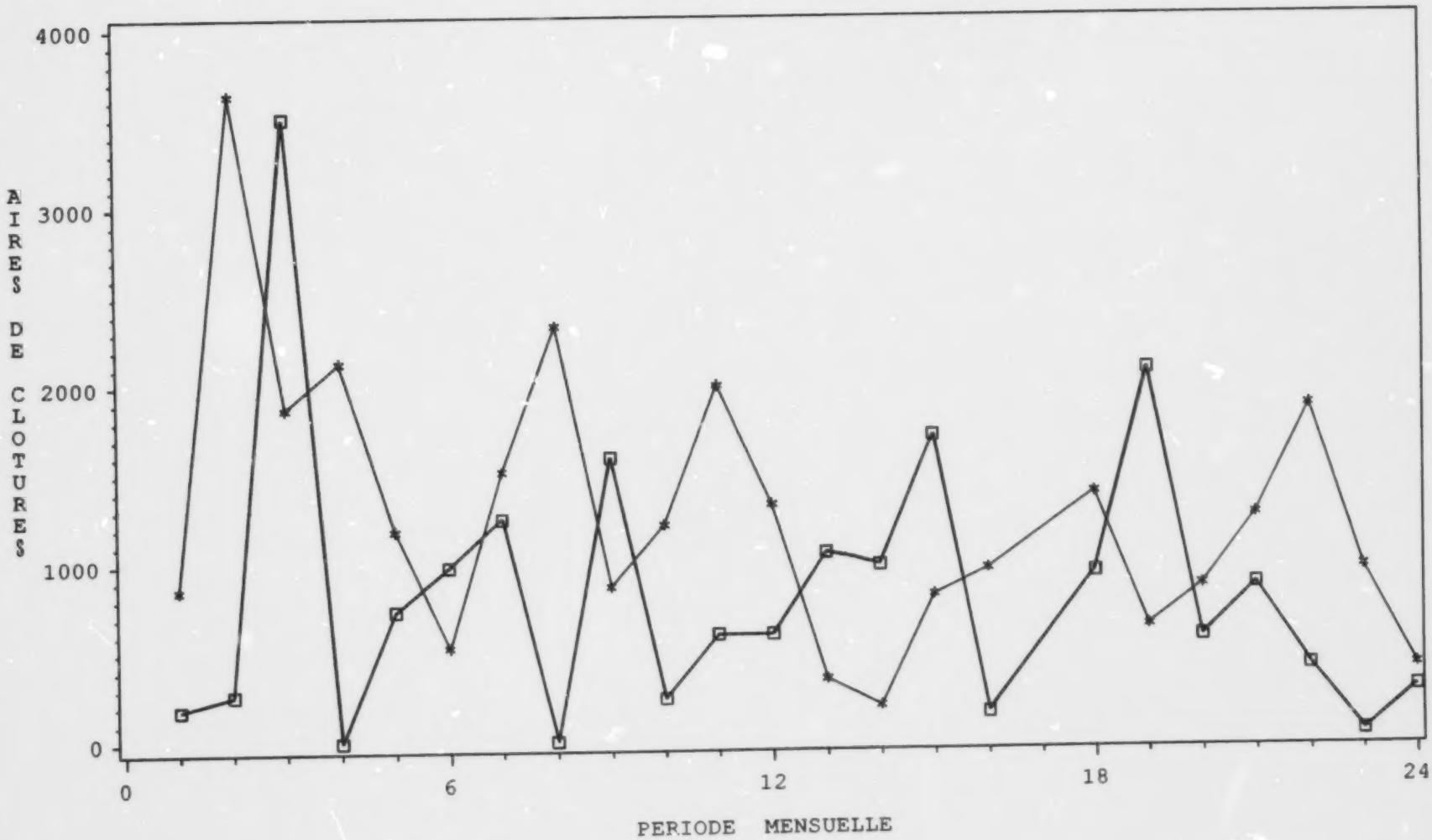


Figure E.47

ETOILE: CLOTURES DE TYPE A (PIEDS CARRES)
CARRE: CLOTURES DE TYPE G (PIEDS CARRES)

AIRES DE CLOTURES A REMBLAI VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

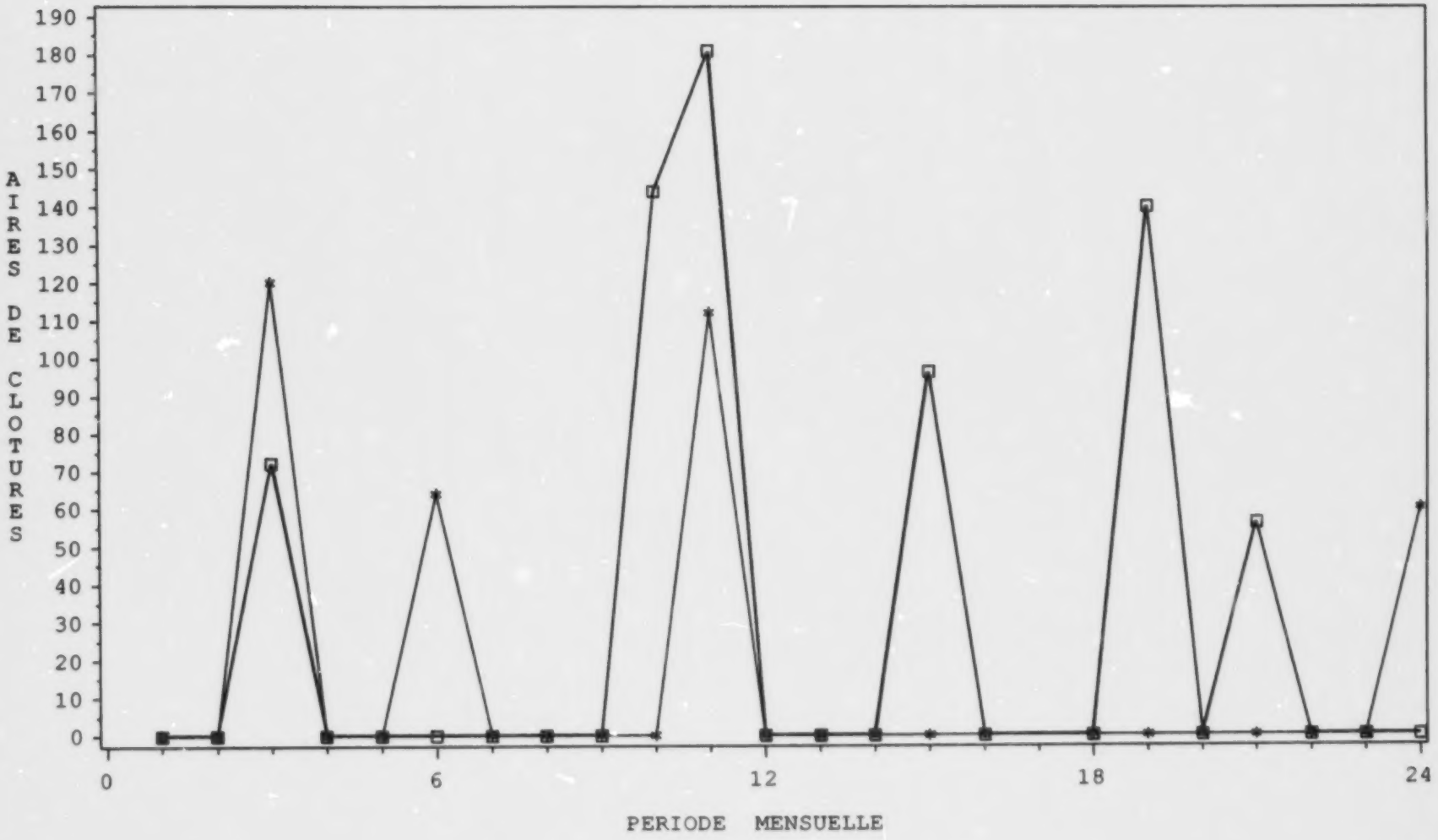


Figure E.48

ETOILE: CLOTURES DE TYPE A (PIEDS CARRES)
CARRE: CLOTURES DE TYPE G (PIEDS CARRES)

AIRES DE CLOTURES A REMBLAI VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

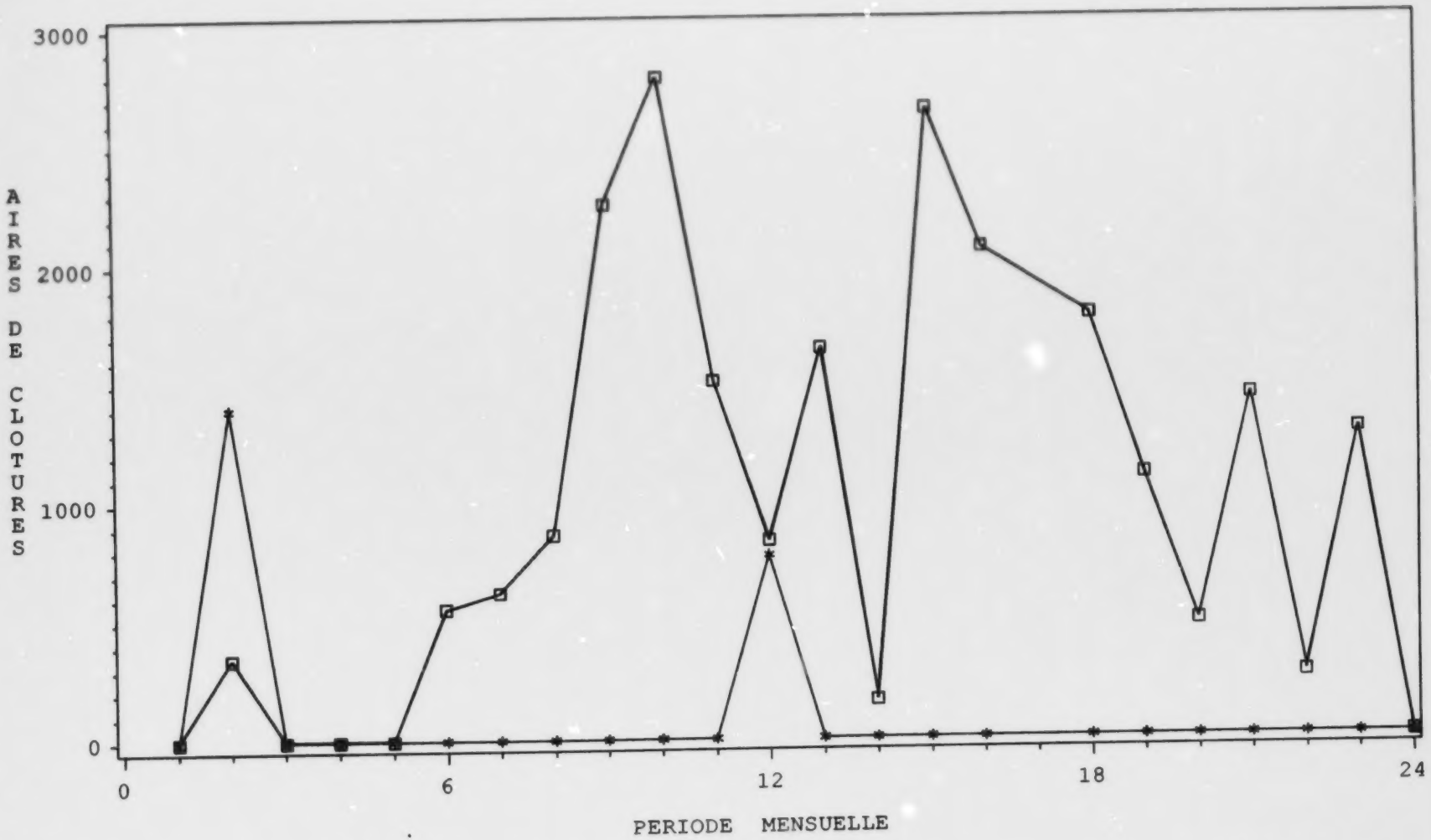


Figure E.49

ETOILE: CLOTURES DE TYPE A (PIEDS CARRES)
CARRE: CLOTURES DE TYPE G (PIEDS CARRES)

TONNES DE REMBLAI VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

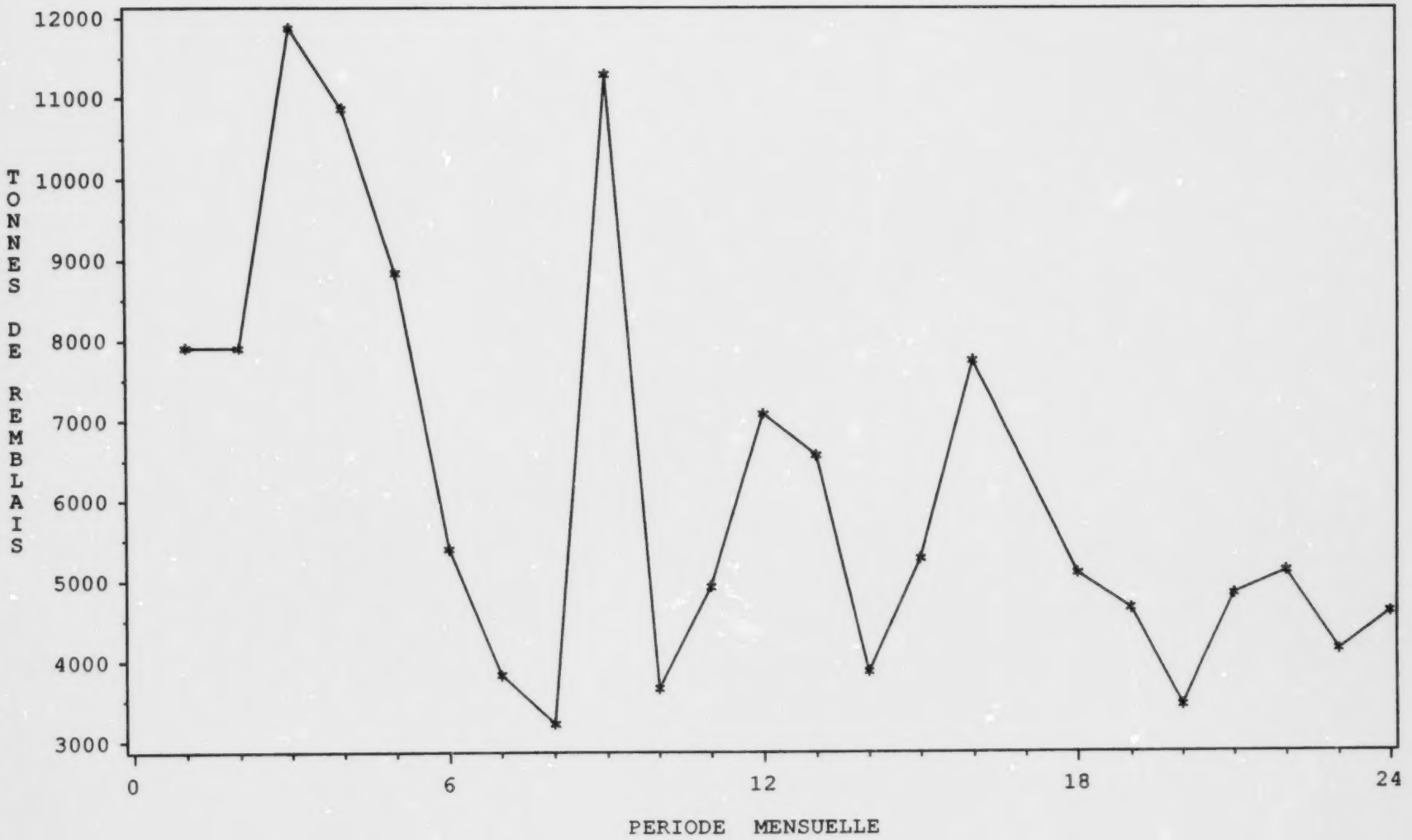


Figure E.50

ETOILE: REMBLAI HYDRAULIQUE

TONNES DE REMBLAI VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

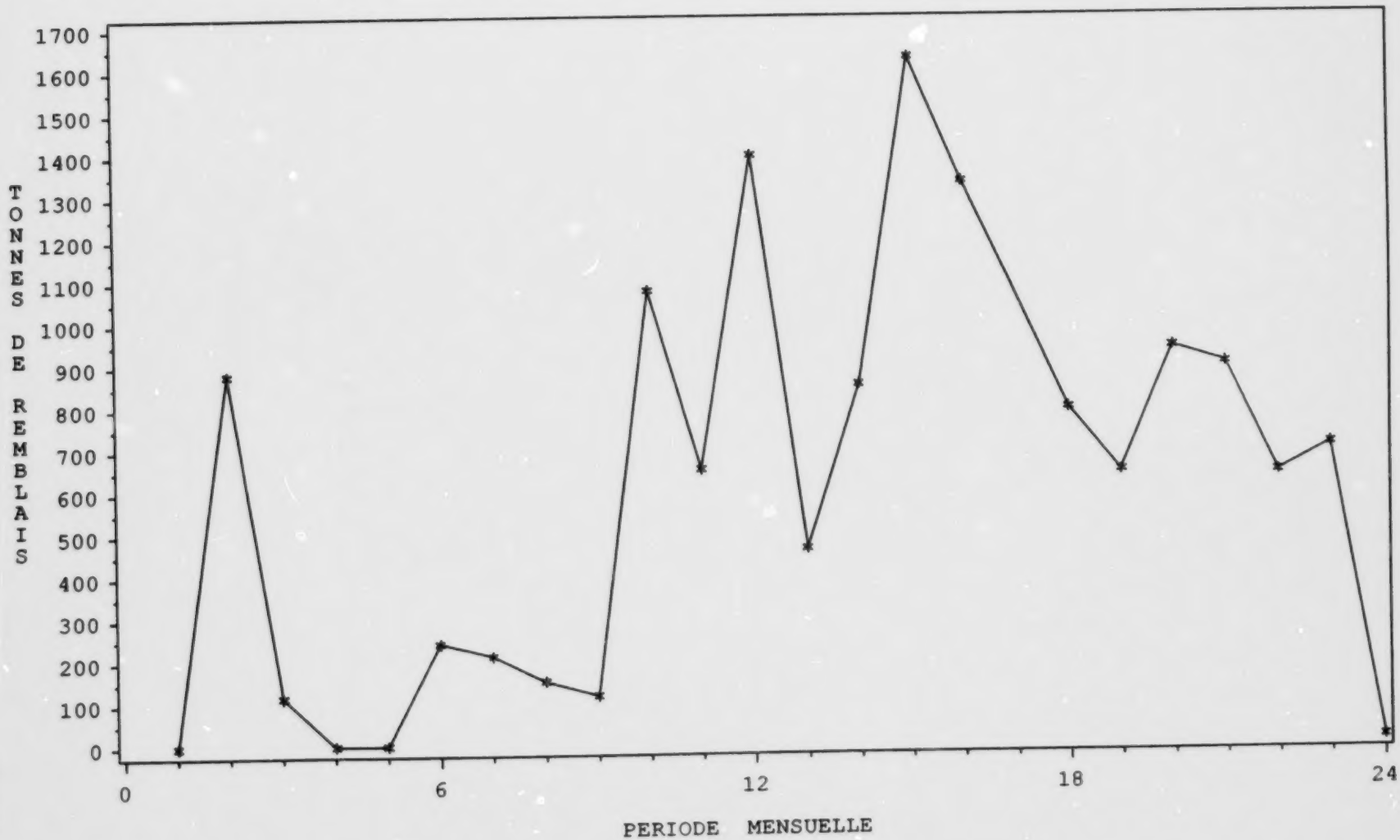


Figure E.51

ETOILE: REMBLAI HYDRAULIQUE

PIEDS D'OUVERTURES VERTICALES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

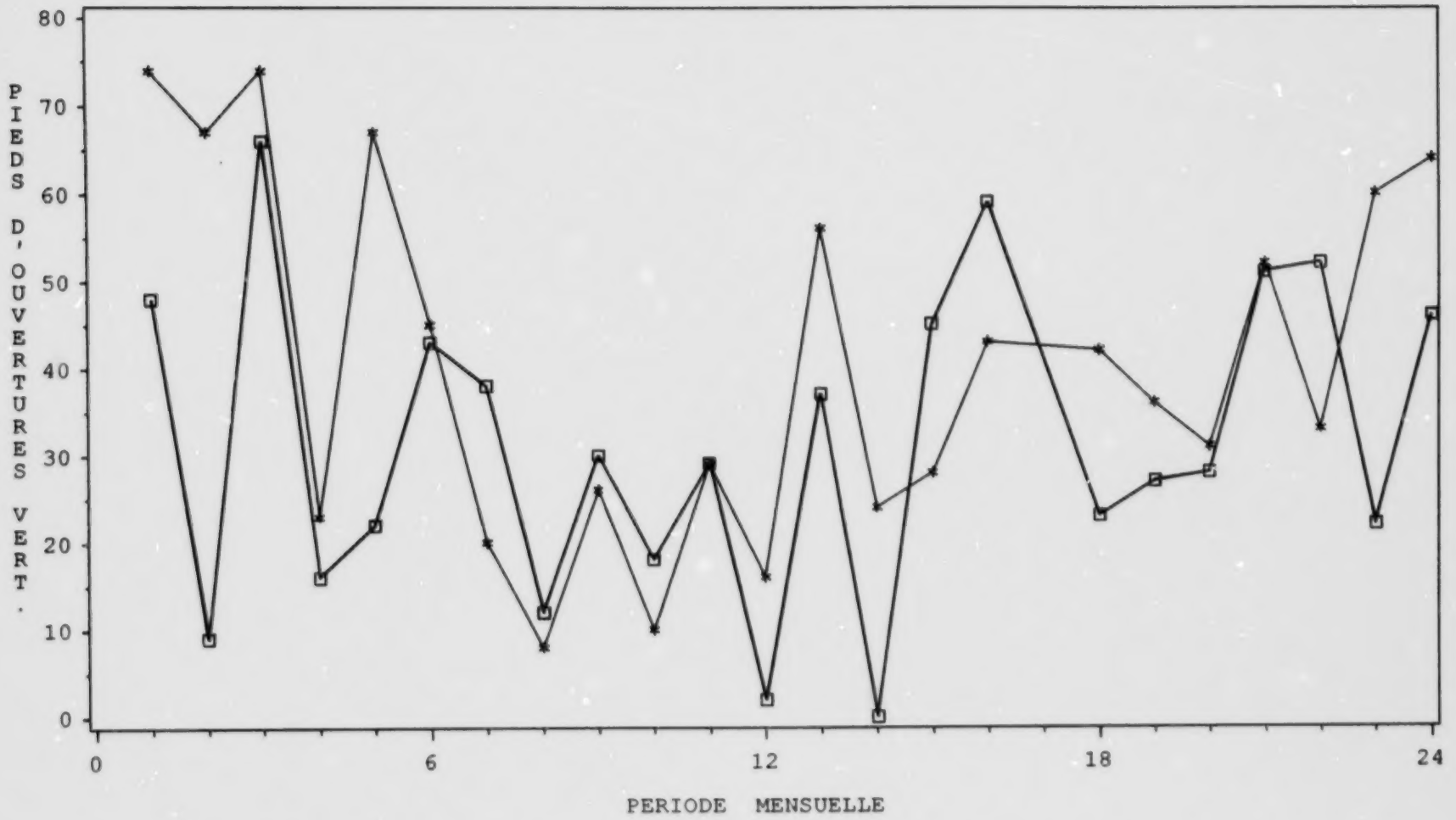


Figure E.52

ETOILE: CHEMINEES A MINERAI
CARRE: PASSAGES D'HOMMES

PIEDS D'OUVERTURES VERTICALES VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

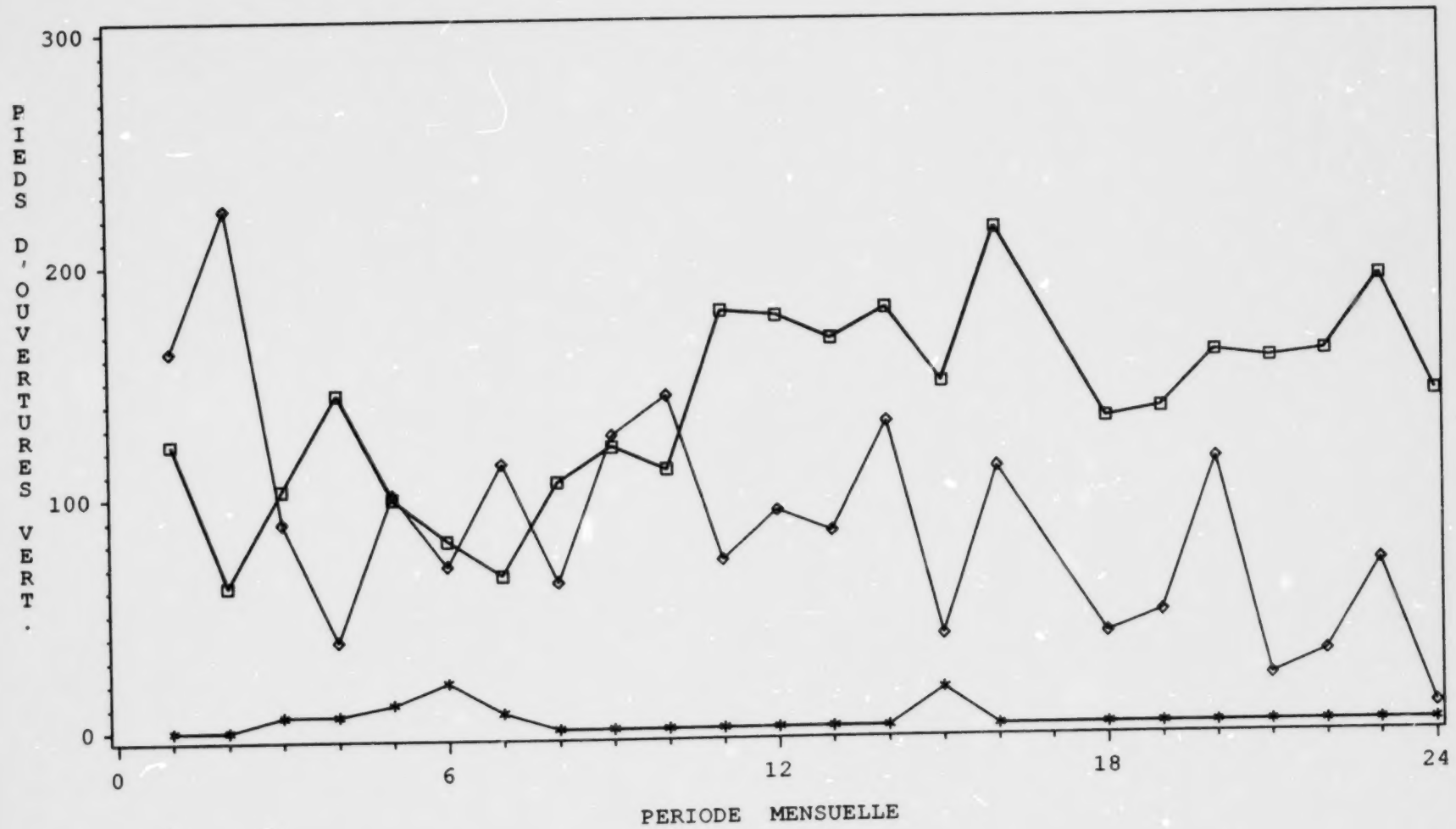


Figure E.53

ETOILE: CHEMINEES A MINERAI
CARRE: PASSAGES D'HOMMES
Llosange: MONTERIES

PIEDS D'OUVERTURES VERTICALES VS PERIODE MENSUELLE DU RELEVE

RECUPERATION DE PILIERS

MINE E

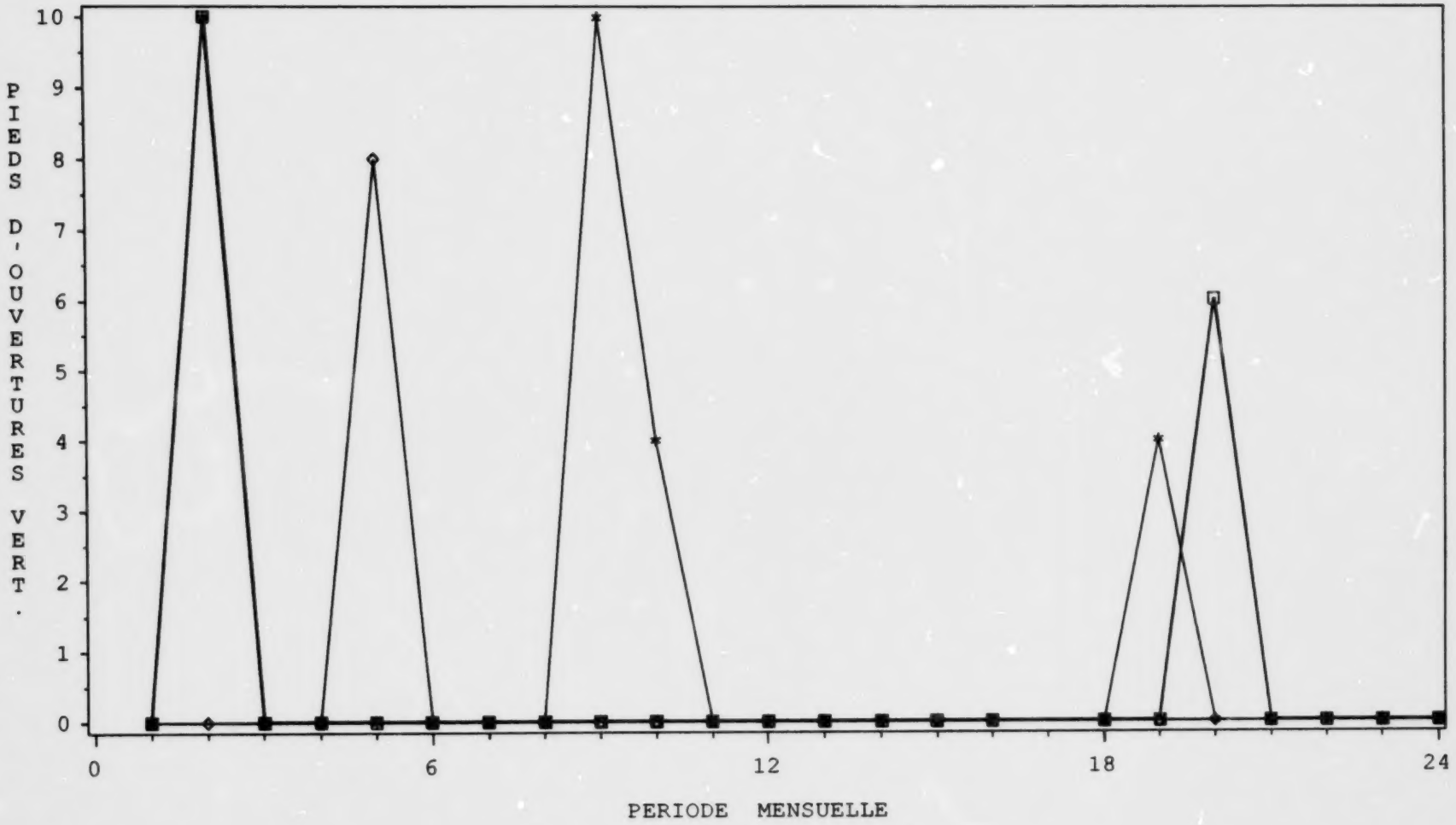


Figure E.54

ETOILE: CHEMINEES A MINERAI
CARRE: PASSAGES D'HOMMES
Llosange: MONTERIES

PAREMENT EFFECTUE VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES REMBLAYEES

MINE E

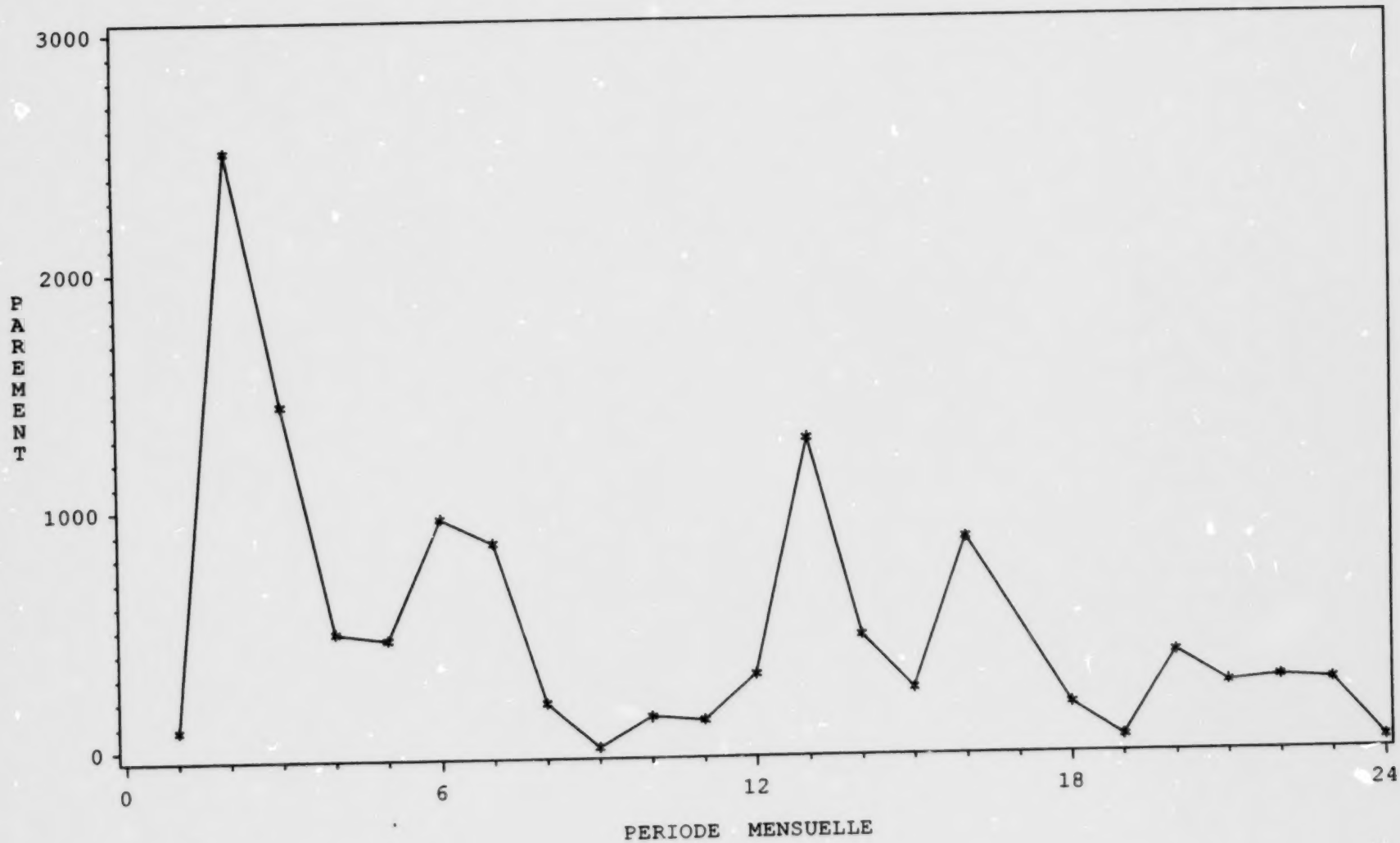


Figure E.55

PAREMENT: TONNES

PAREMENT EFFECTUE VS PERIODE MENSUELLE DU RELEVE

ABATTAGE CHAMBRES MAGASINS

MINE E

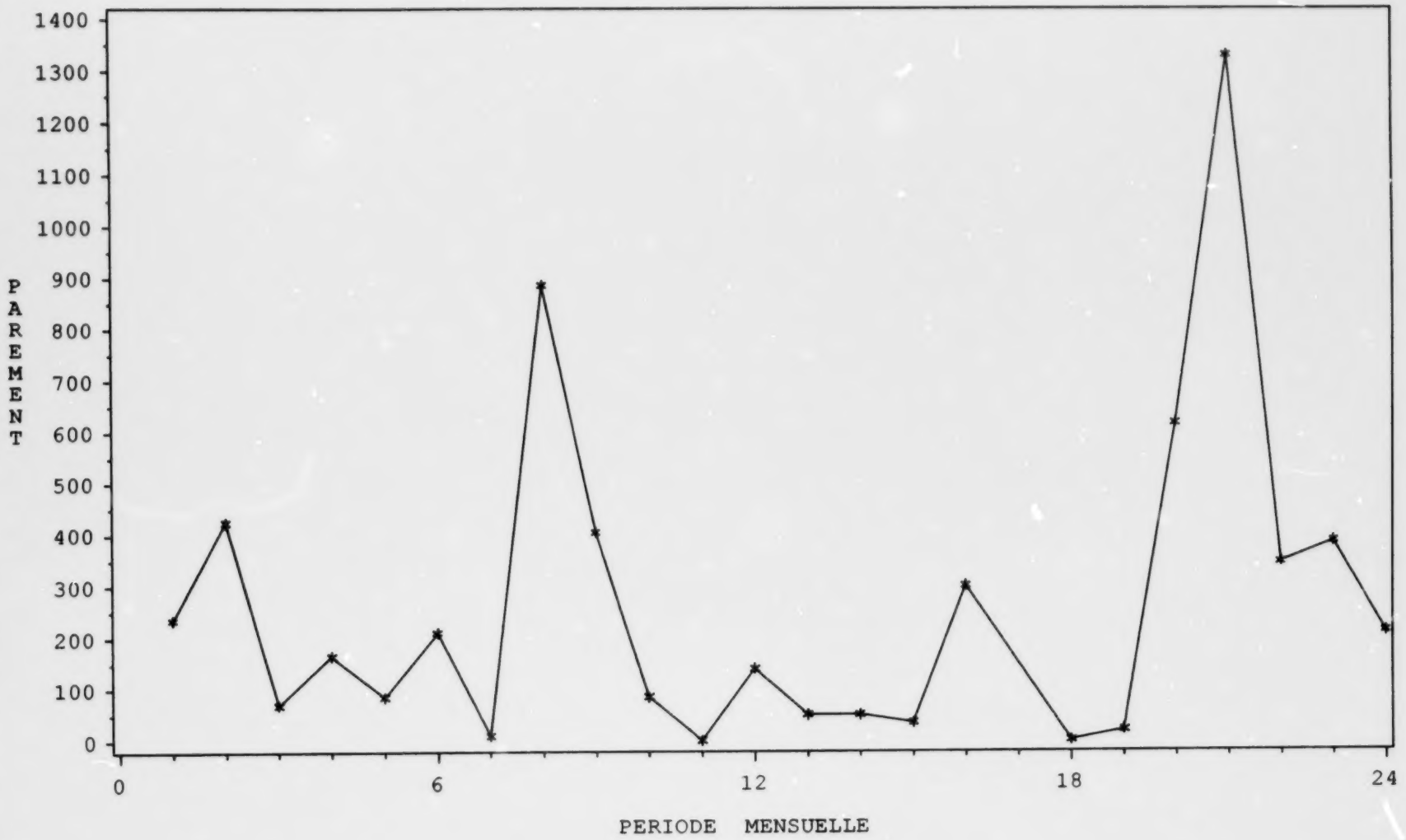


Figure E.56

PAREMENT: TONNES

NOMBRE DE TONNES CASSEES VS LE NOMBRE DE QUARTS-HOMMES (PRODUCTION)

ABATTAGE CHAMBRES REMBLAYEES

MINE E

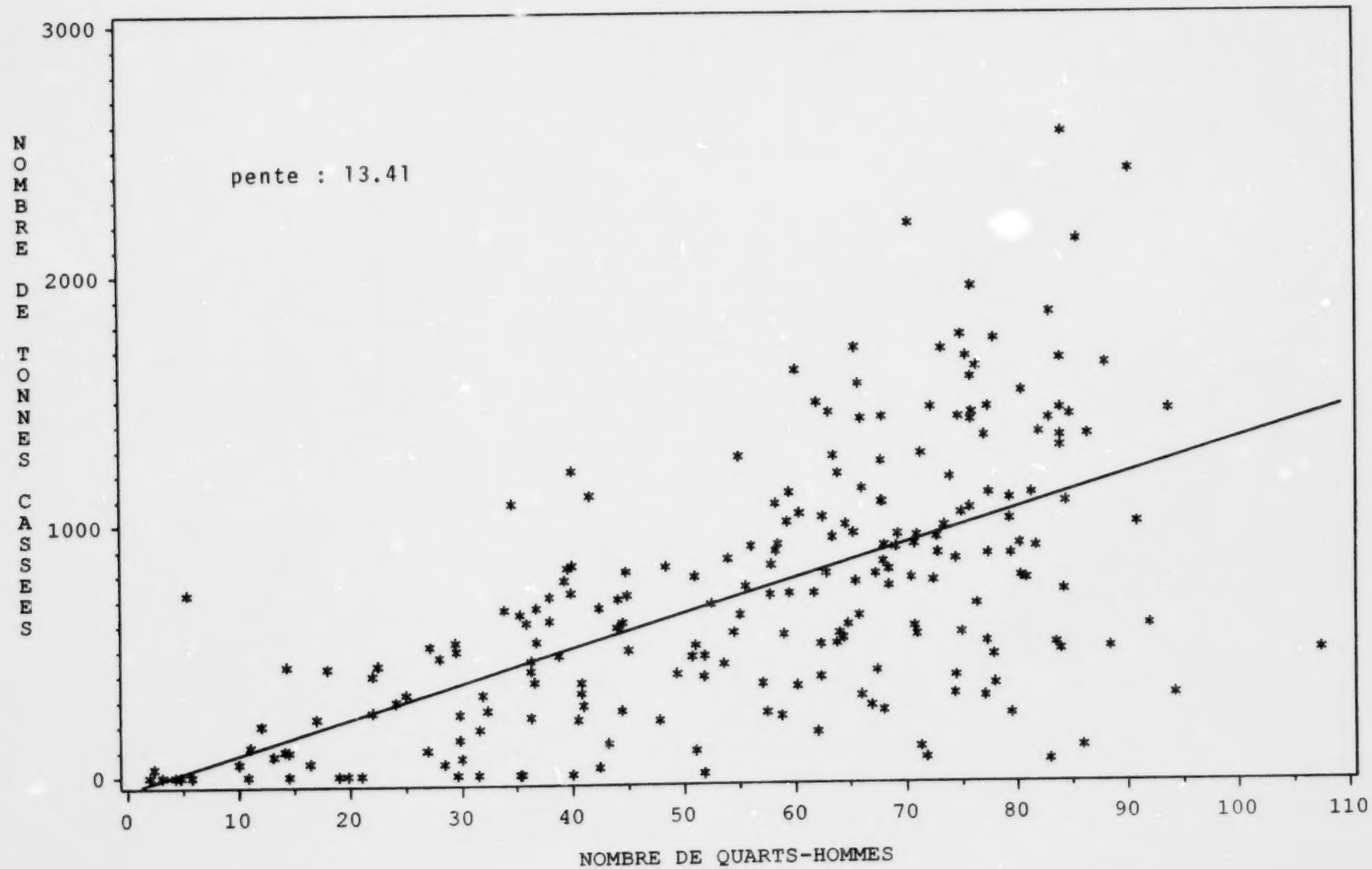


Figure E.57

NOMBRE DE TONNES CASSEES VS LE NOMBRE DE QUARTS-HOMMES (PRODUCTION)

ABATTAGE CHAMBRES MAGASINS

MINE E

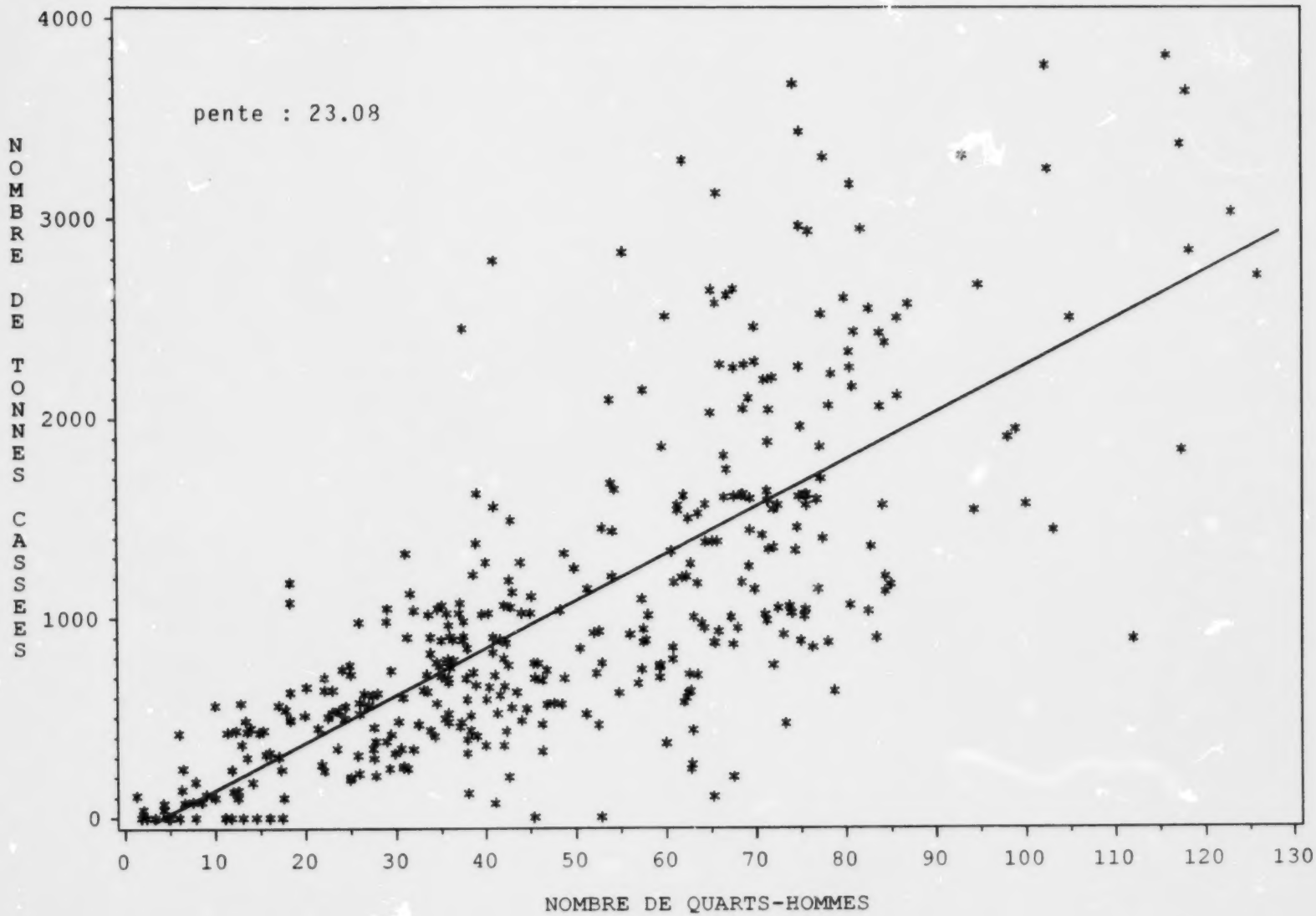


Figure E.58

NOMBRE DE TONNES CASSEES VS LE NOMBRE DE QUARTS-HOMMES (PRODUCTION)

RECUPERATION DE PILIERS

MINE E

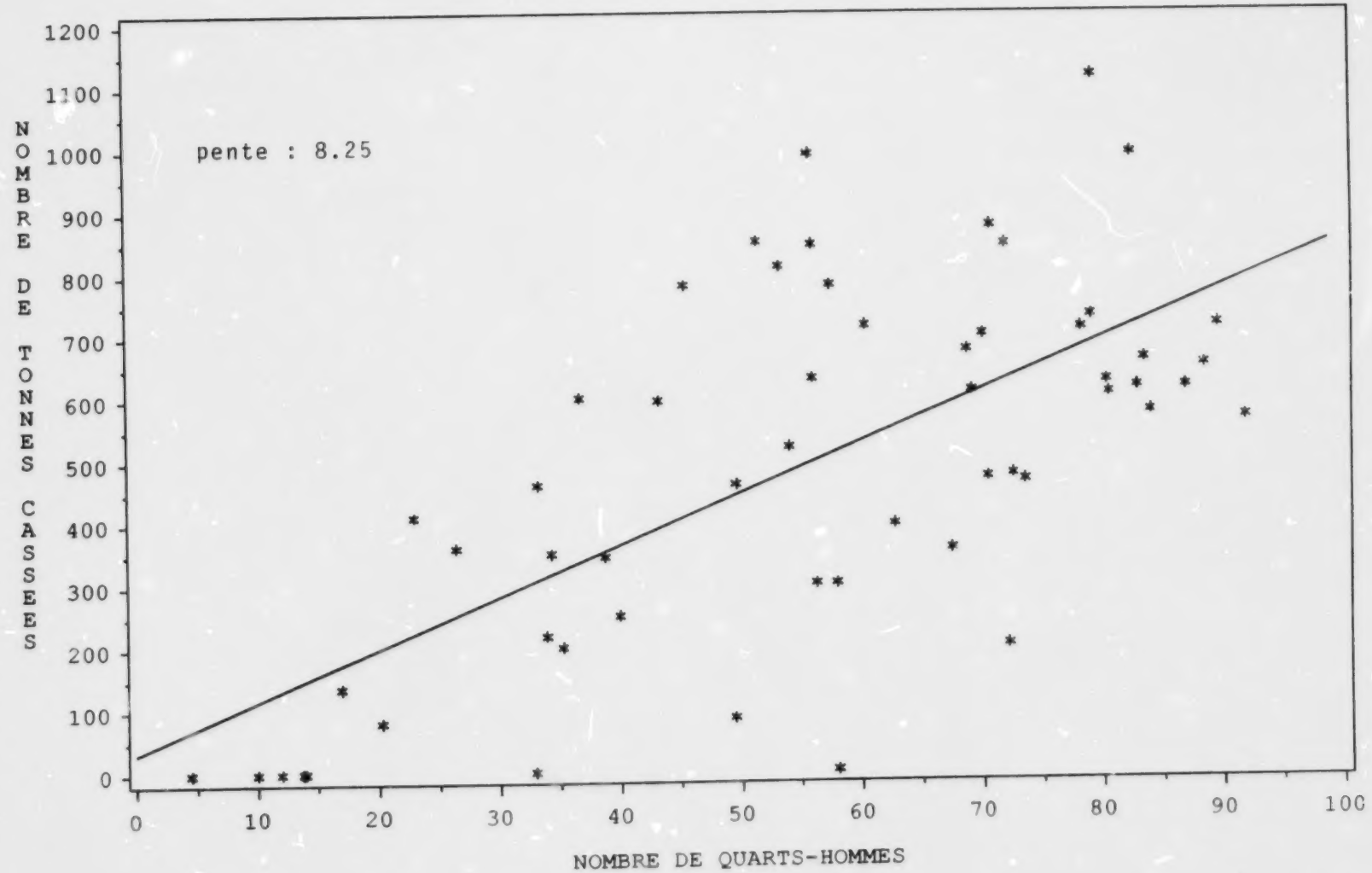


Figure E.59

NOMBRE DE TONNES CASSEES VS LE FORAGE DE PRODUCTION (PIEDS)

ABATTAGE CHAMBRES REMBLAYEES

MINE E

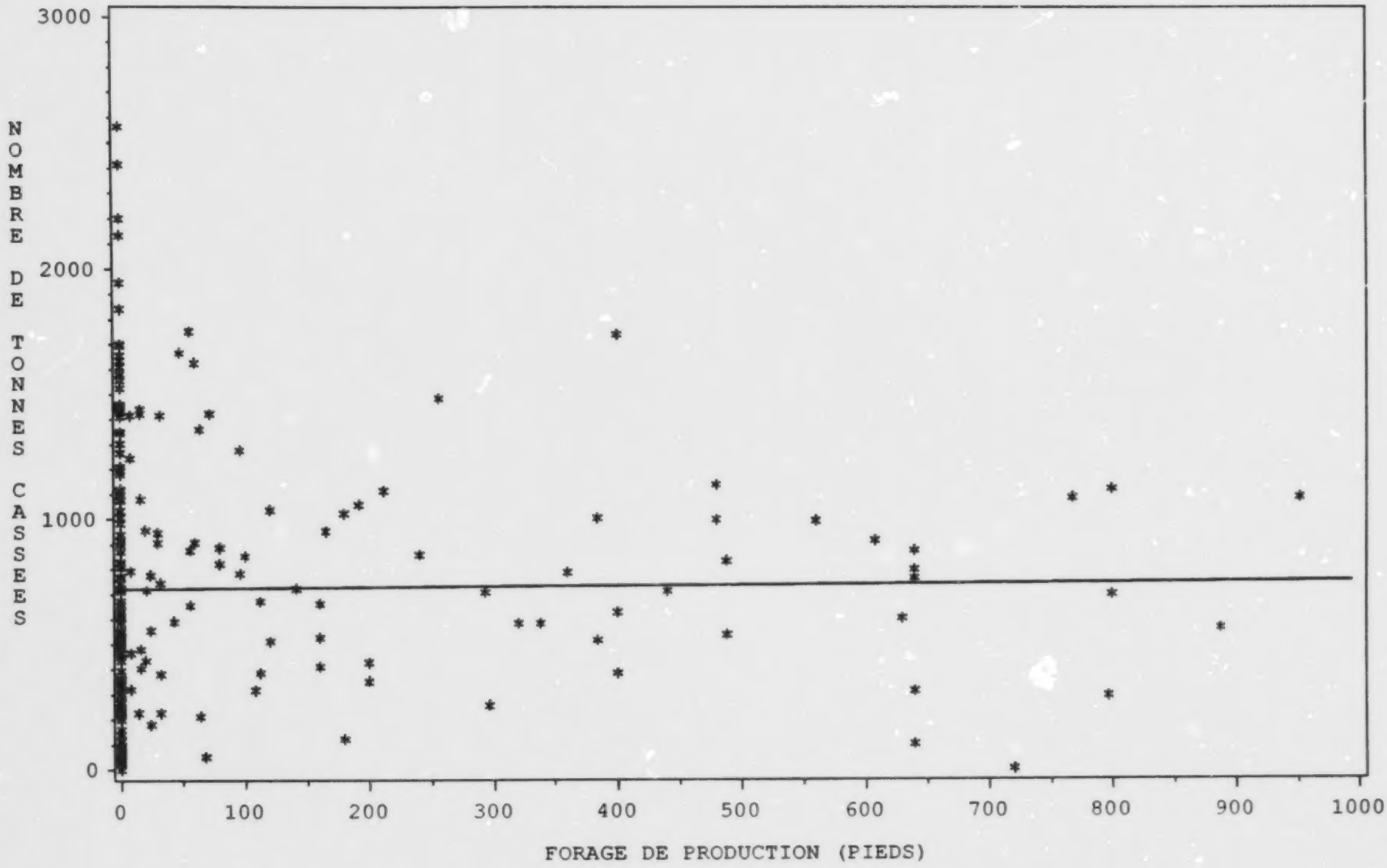


Figure E.60

NOMBRE DE TONNES CASSEES VS LE FORAGE DE PRODUCTION (PIEDS)

ABATTAGE CHAMBRES MAGASINS

MINE E

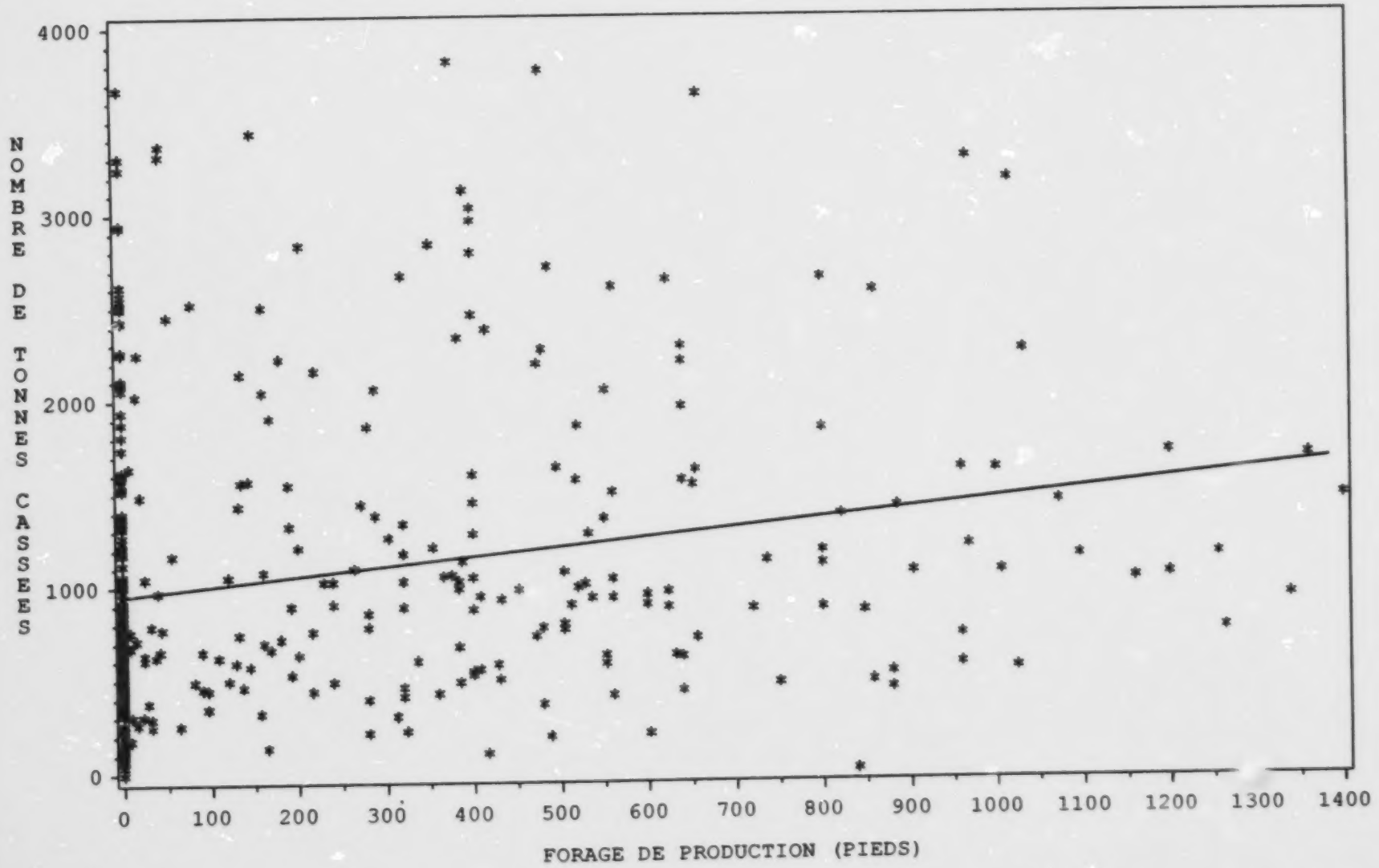


Figure E.61

TONNES/QUART-HOMME VS NOMBRE DE MINEURS (PRODUCTION)
ABATTAGE CHAMBRES REMBLAYEES
MINE E

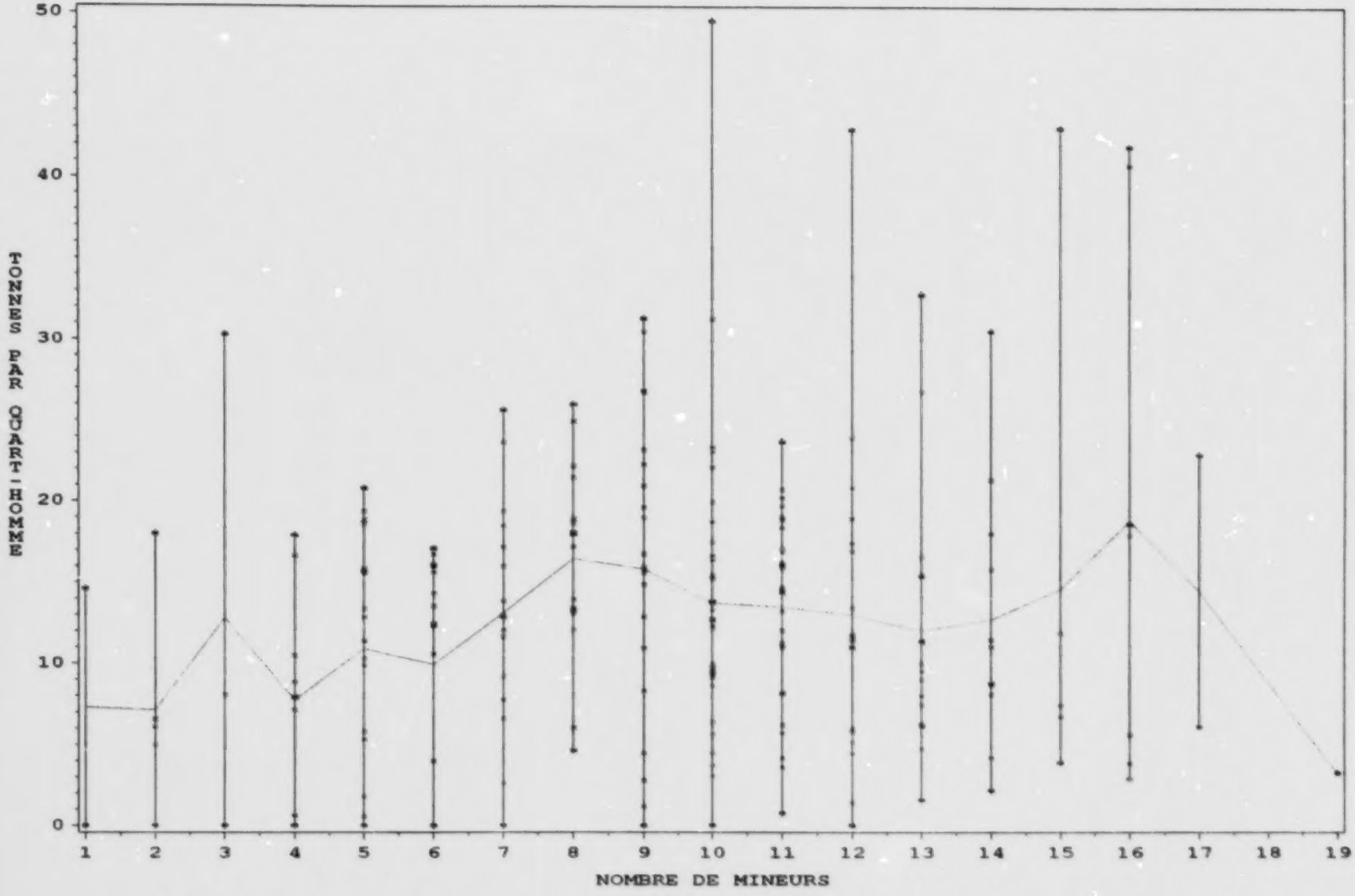


FIGURE E.62

TONNES CASSEES/QUART-HOMME VS LE NOMBRE DE MINEURS (PRODUCTION)

ABATTAGE CHAMBRES MAGASINS

MINE E

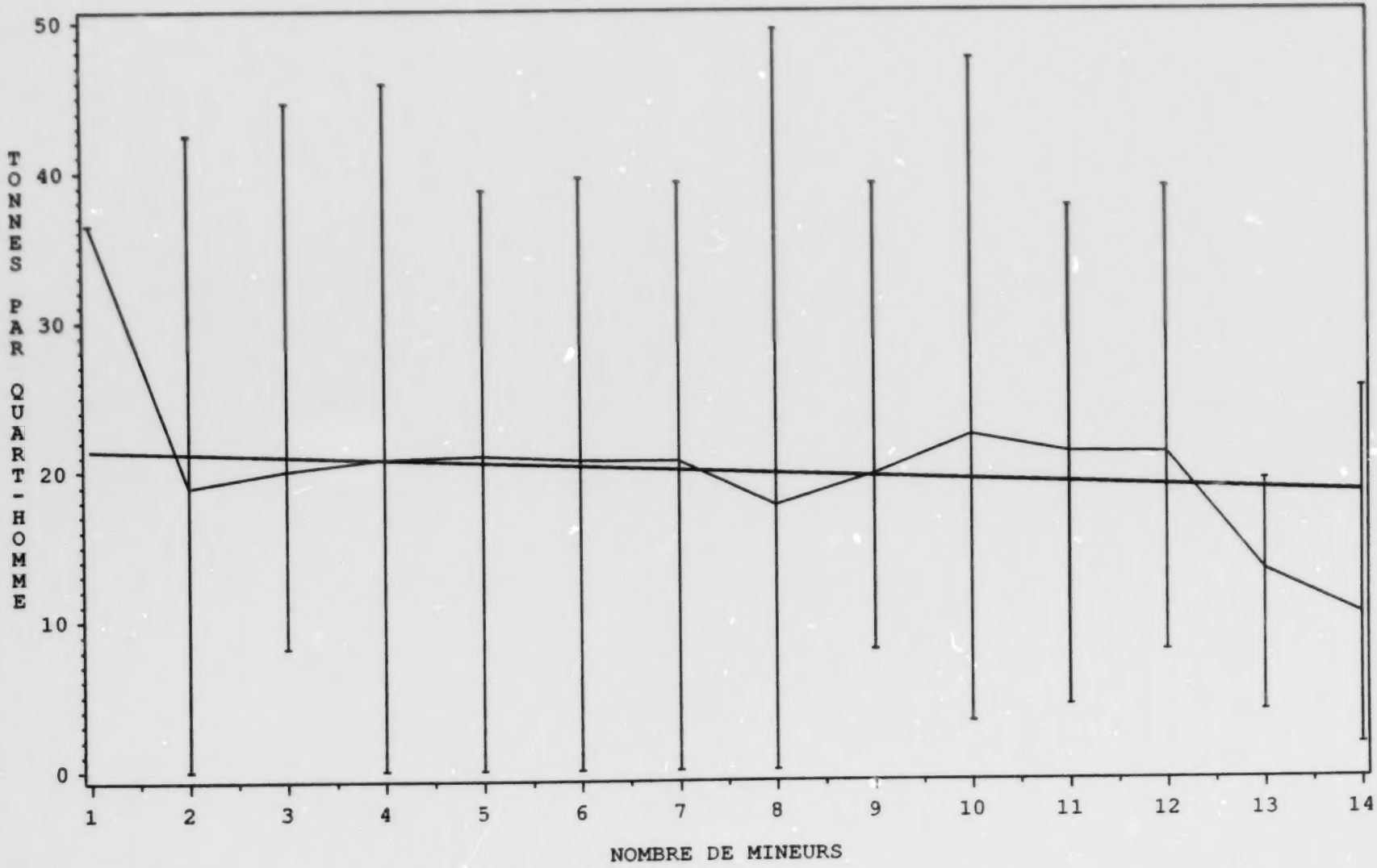


Figure E.63

TONNES/QUART-HOMME VS NOMBRE DE MINEURS (PRODUCTION)
RECUPERATION DE PILIERS
MINE E

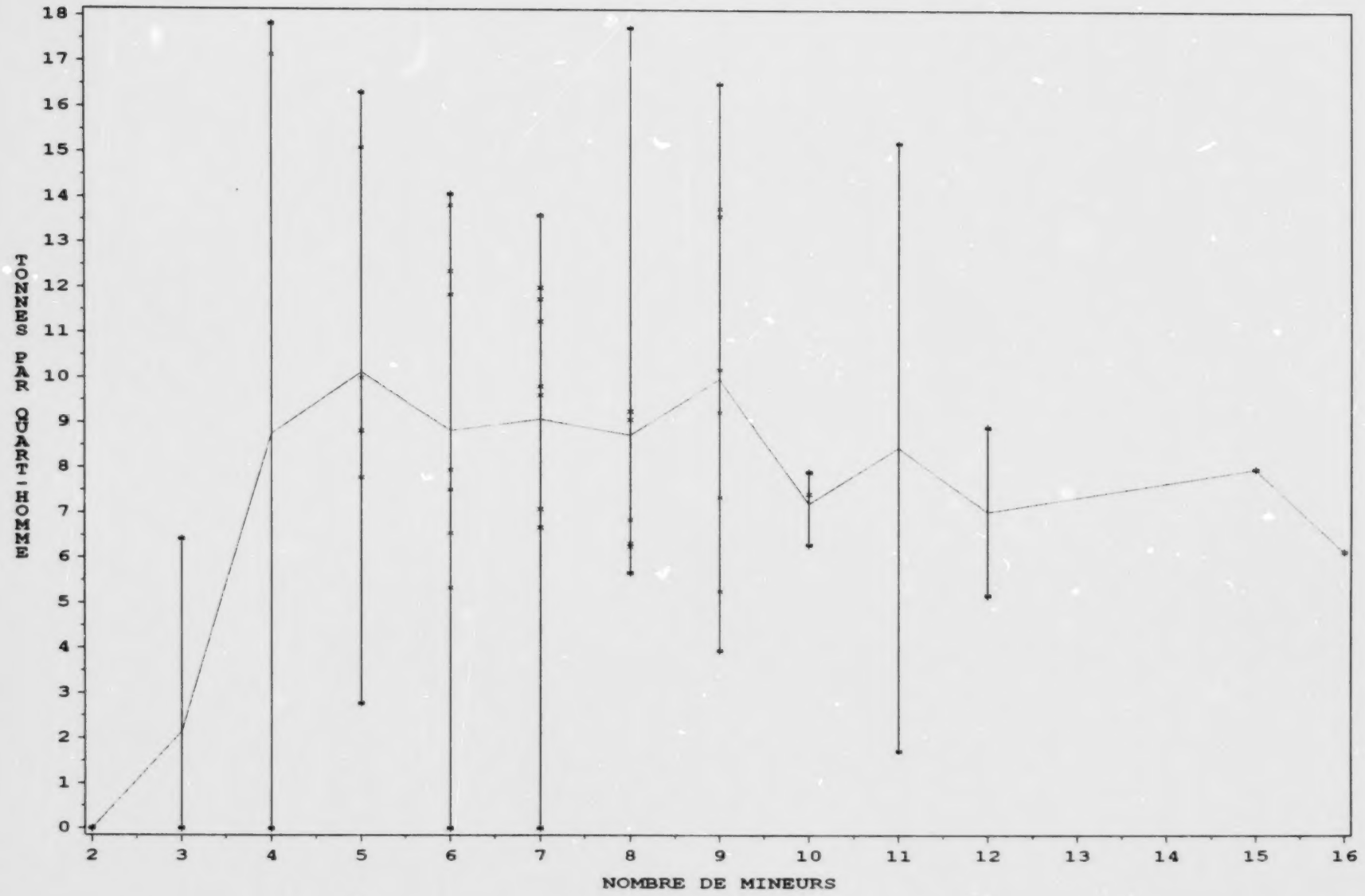


FIGURE E.64

PIEDS DE FORAGE/QUART-HOMME VS LE NOMBRE DE MINEURS (PRODUCTION)

ABATTAGE CHAMBRES REMBLAYEES

MINE E

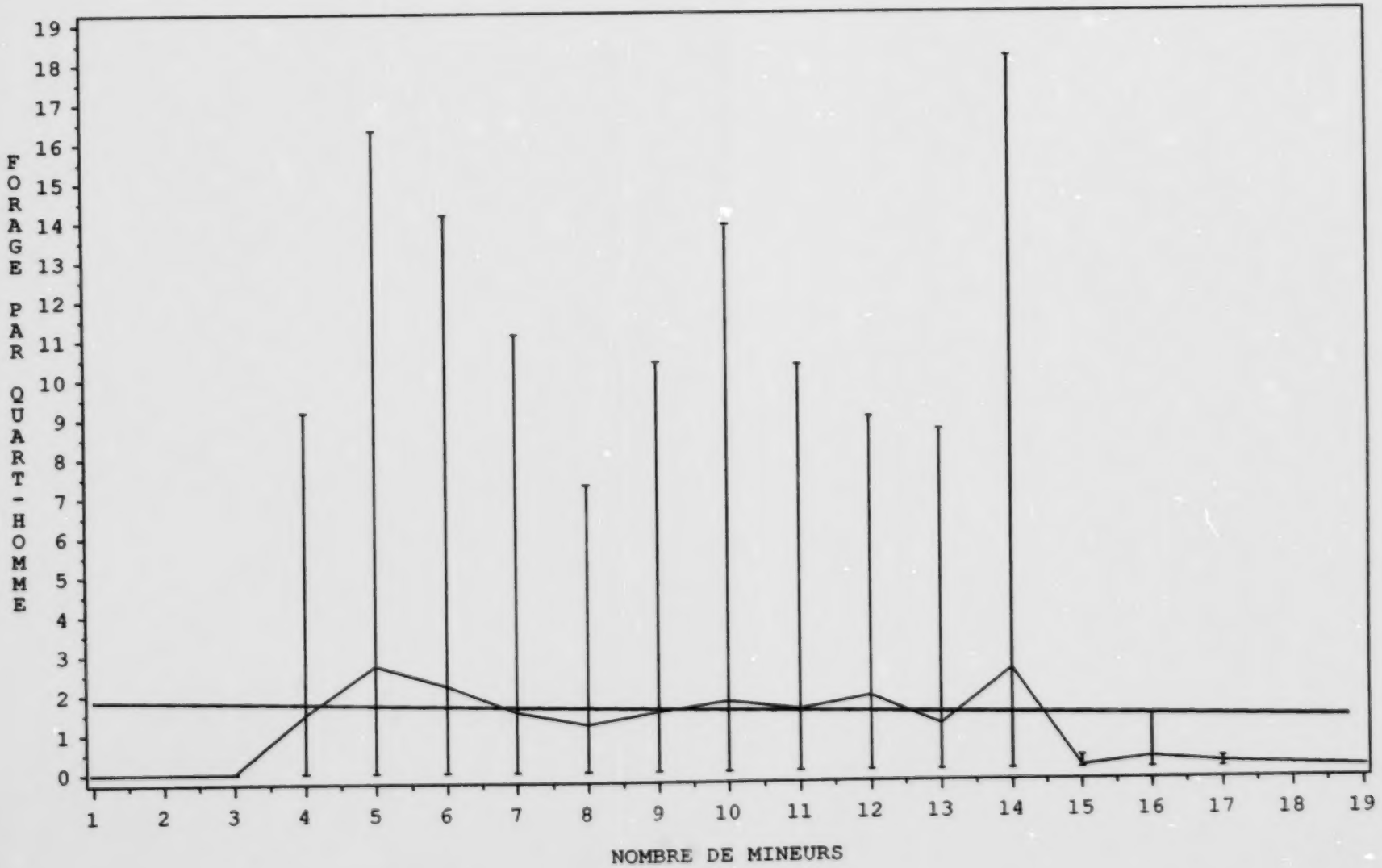


Figure E.65

PIEDS DE FORAGE/QUART-HOMME VS LE NOMBRE DE MINEURS (PRODUCTION)

ABATTAGE CHAMBRES MAGASINS

MINE E

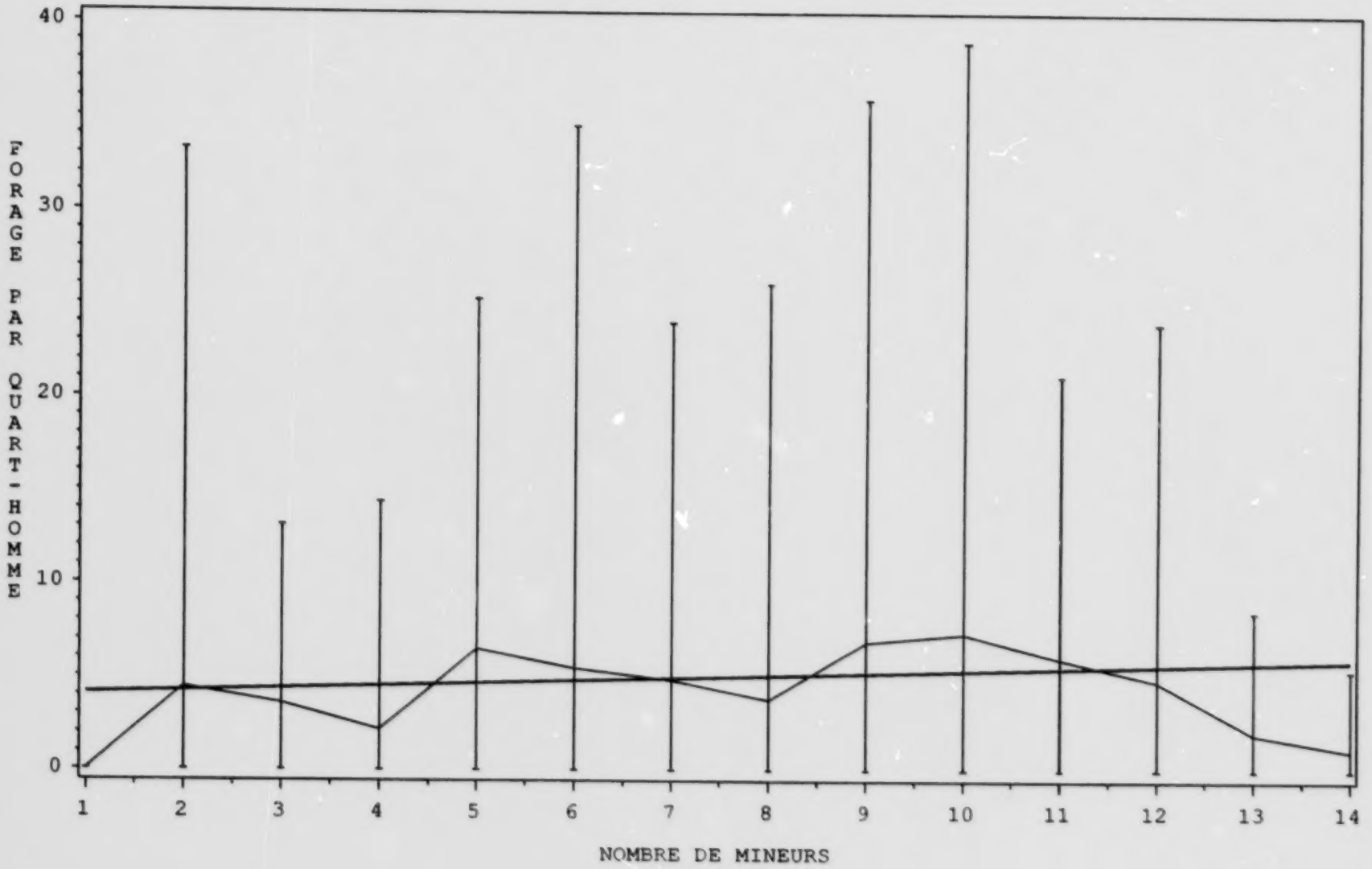


Figure E.66

PRIME AU RENDEMENT VS LE NOMBRE DE QUARTS-HOMMES (PRODUCTION)

ABATTAGE CHAMBRES REMBLAYEES

MINE E

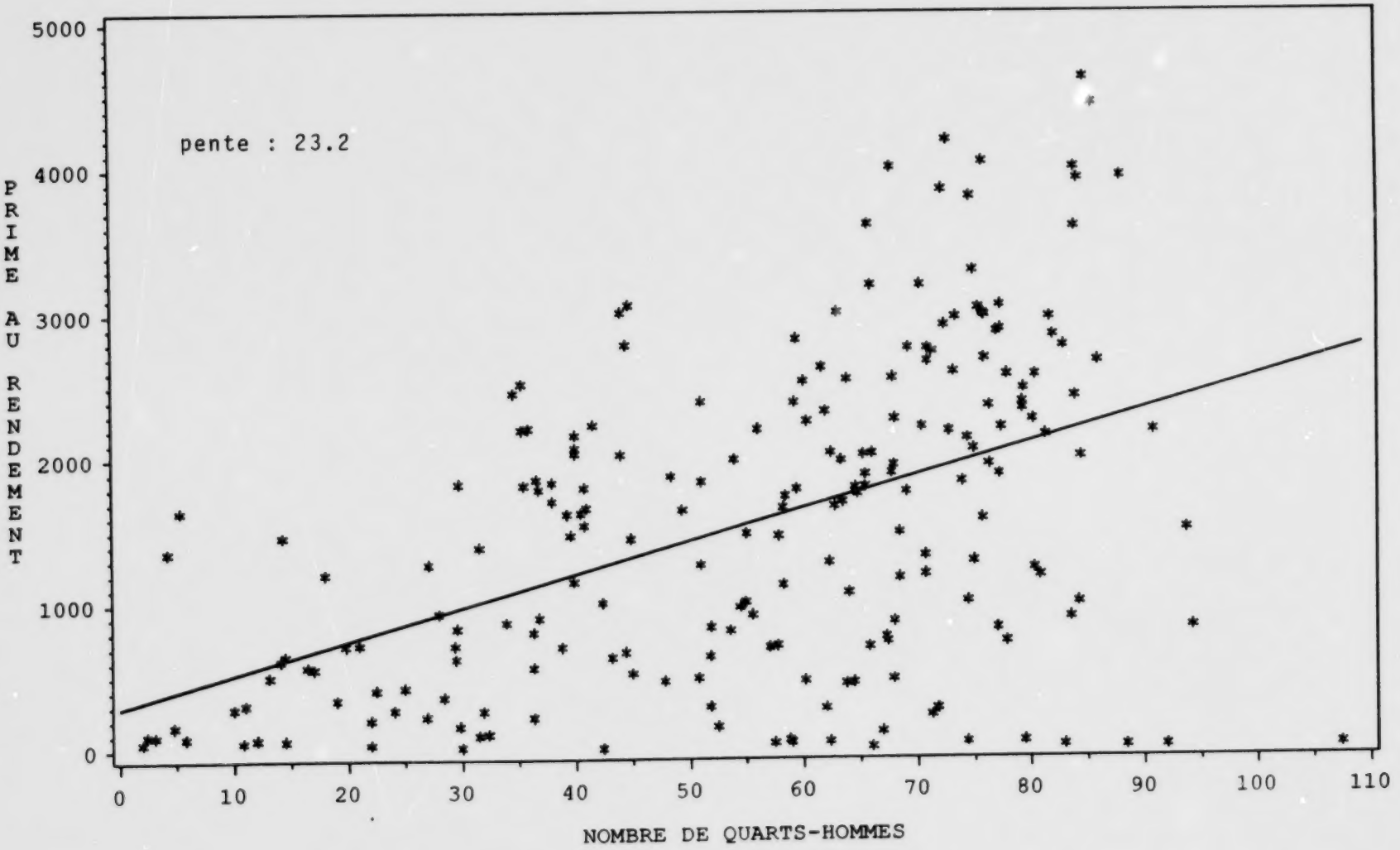


Figure E.67

NOTE: PRIME AU RENDEMENT EN $ COURANT

PRIME AU RENDEMENT VS LE NOMBRE DE QUARTS-HOMMES (PRODUCTION)

ABATTAGE CHAMBRES MAGASINS

MINE E

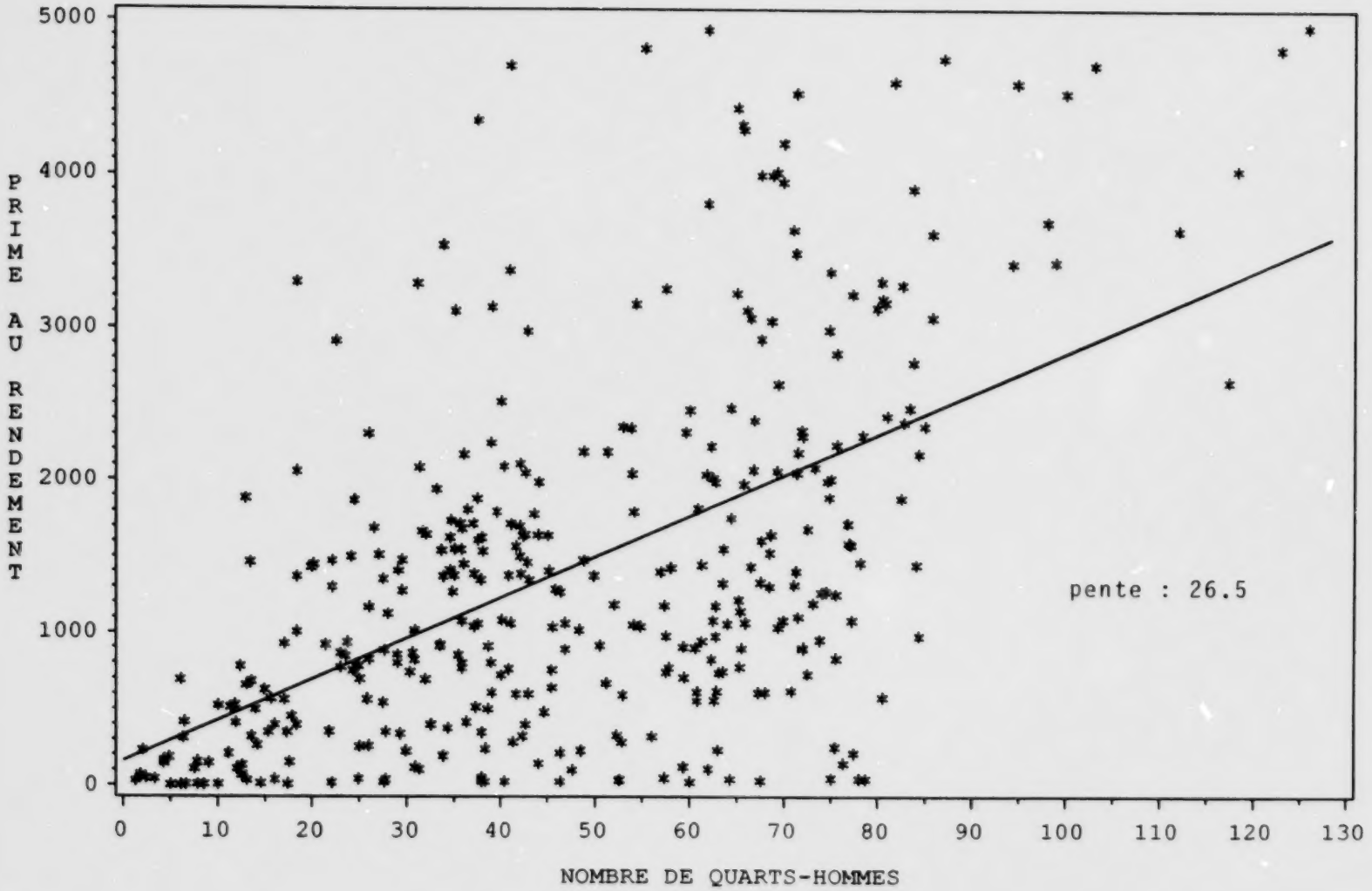


Figure E.68

NOTE: PRIME AU RENDEMENT EN $ COURANT

PRIME AU RENDEMENT VS LE NOMBRE DE QUARTS-HOMMES (PRODUCTION)

RECUPERATION DE PILIERS

MINE E

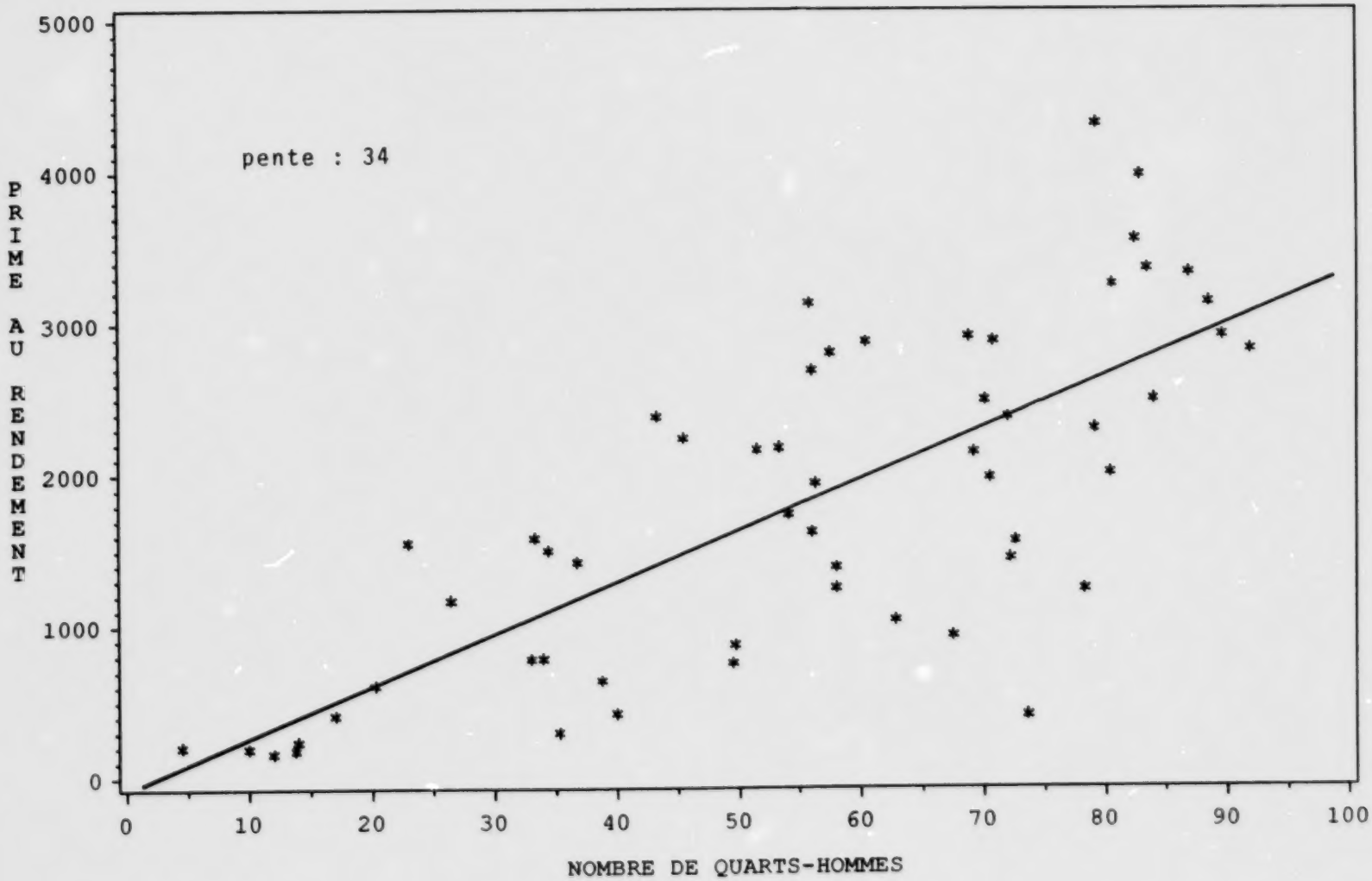


Figure E.69

NOTE: PRIME AU RENDEMENT EN $ COURANTS

PRIME AU RENDEMENT VS LE FORAGE DE PRODUCTION (PIEDS)

ABATTAGE CHAMBRES REMBLAYEES

MINE E

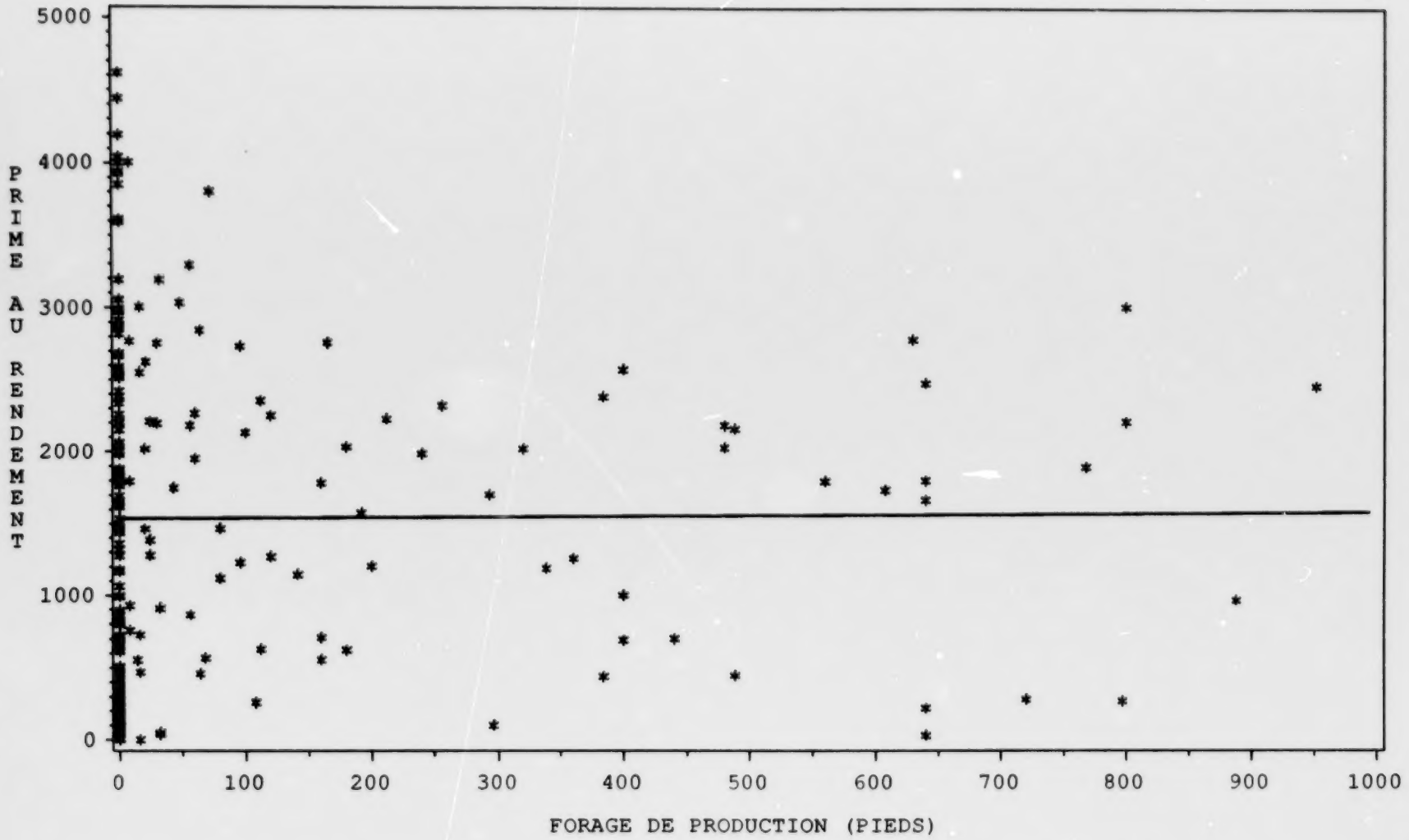


Figure E.70

NOTE: PRIME AU RENDEMENT EN $ COURANT

PRIME AU RENDEMENT VS LE FORAGE DE PRODUCTION (PIEDS)

ABATTAGE CHAMBRES MAGASINS

MINE E

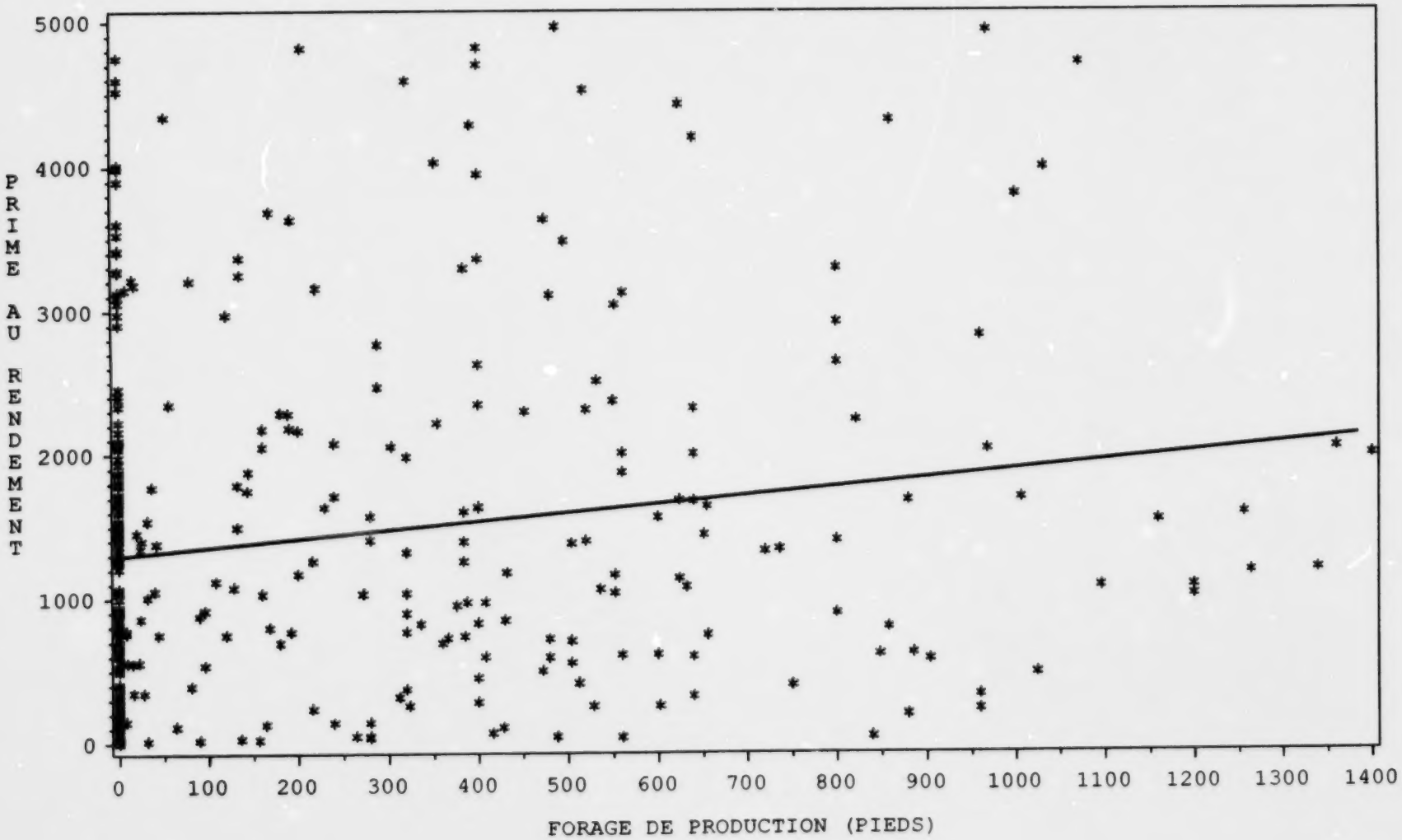


Figure E.71

NOTE: PRIME AU RENDEMENT EN $ COURANT

PRIME AU RENDEMENT VS LE NOMBRE DE TONNES CASSEES

ABATTAGE CHAMBRES REMBLAYEES

MINE E

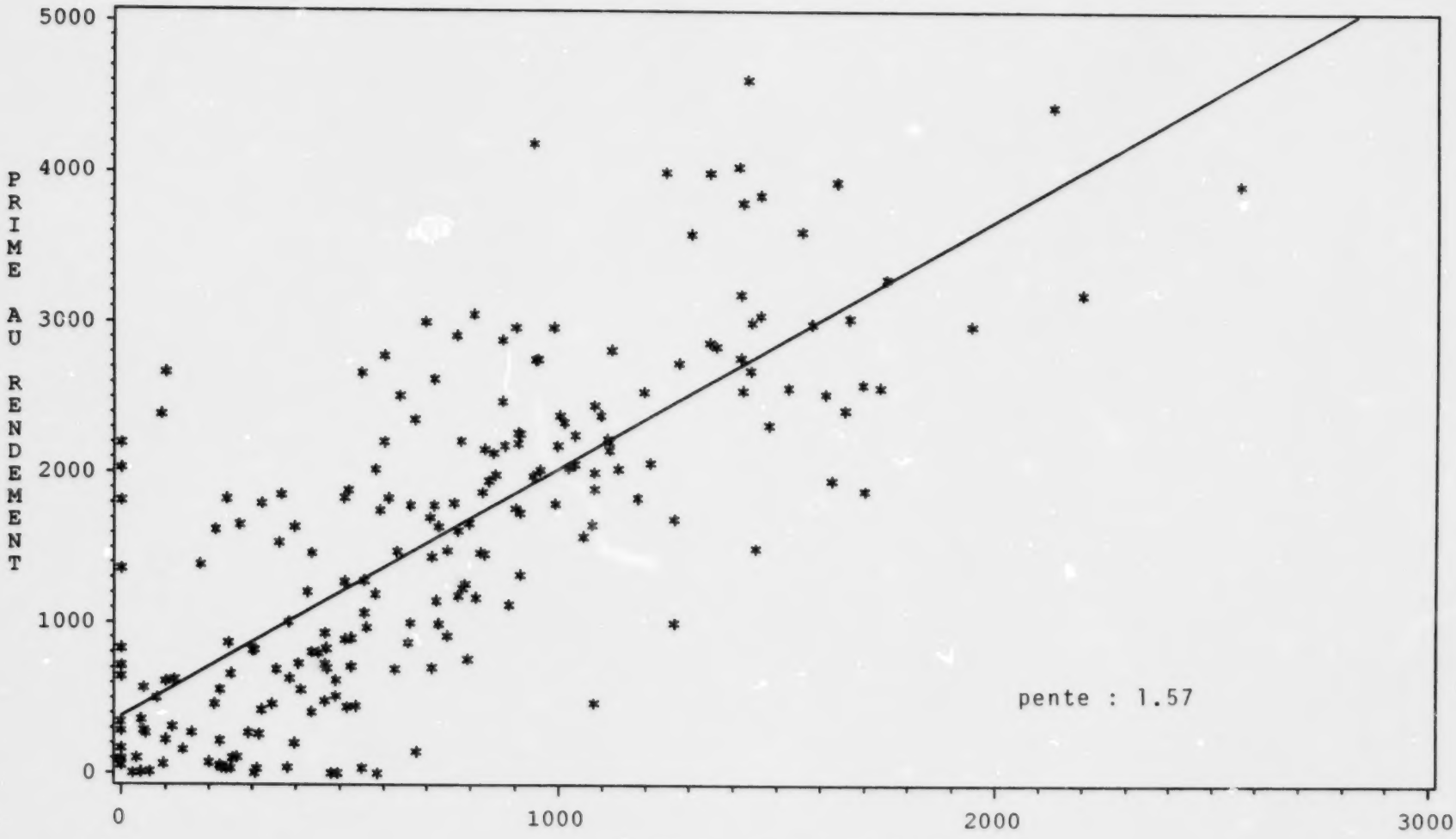


Figure E.72

NOTE: PRIME AU RENDEMENT EN $ COURANT

PRIME AU RENDEMENT VS LE NOMBRE DE TONNES CASSEES

ABATTAGE CHAMBRES MAGASINS

MINE E

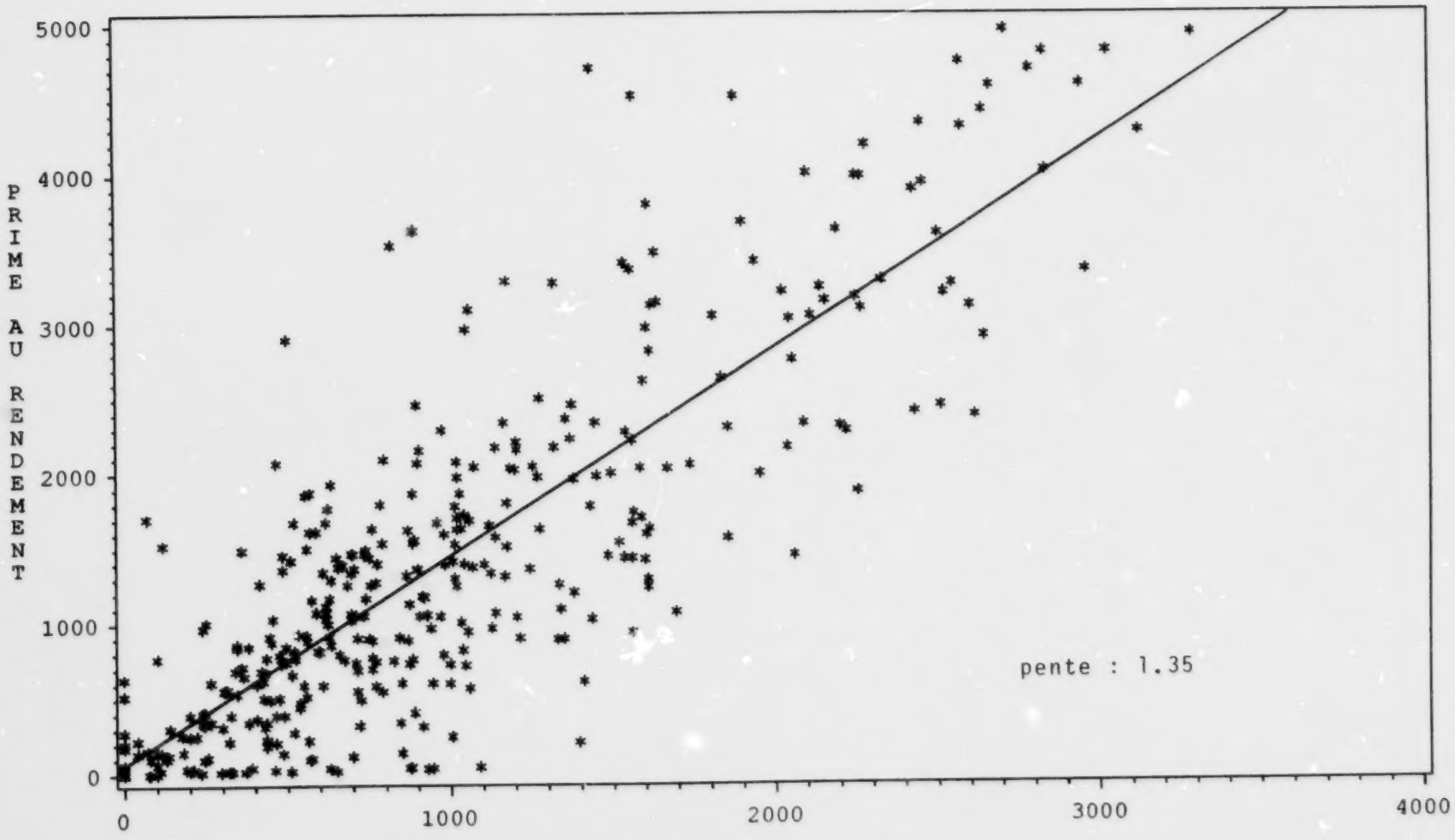


Figure E.73

NOTE: PRIME AU RENDEMENT EN $ COURANT

PRIME AU RENDEMENT VS LE NOMBRE DE TONNES CASSEES

RECUPERATION DE PILIERS

MINE E

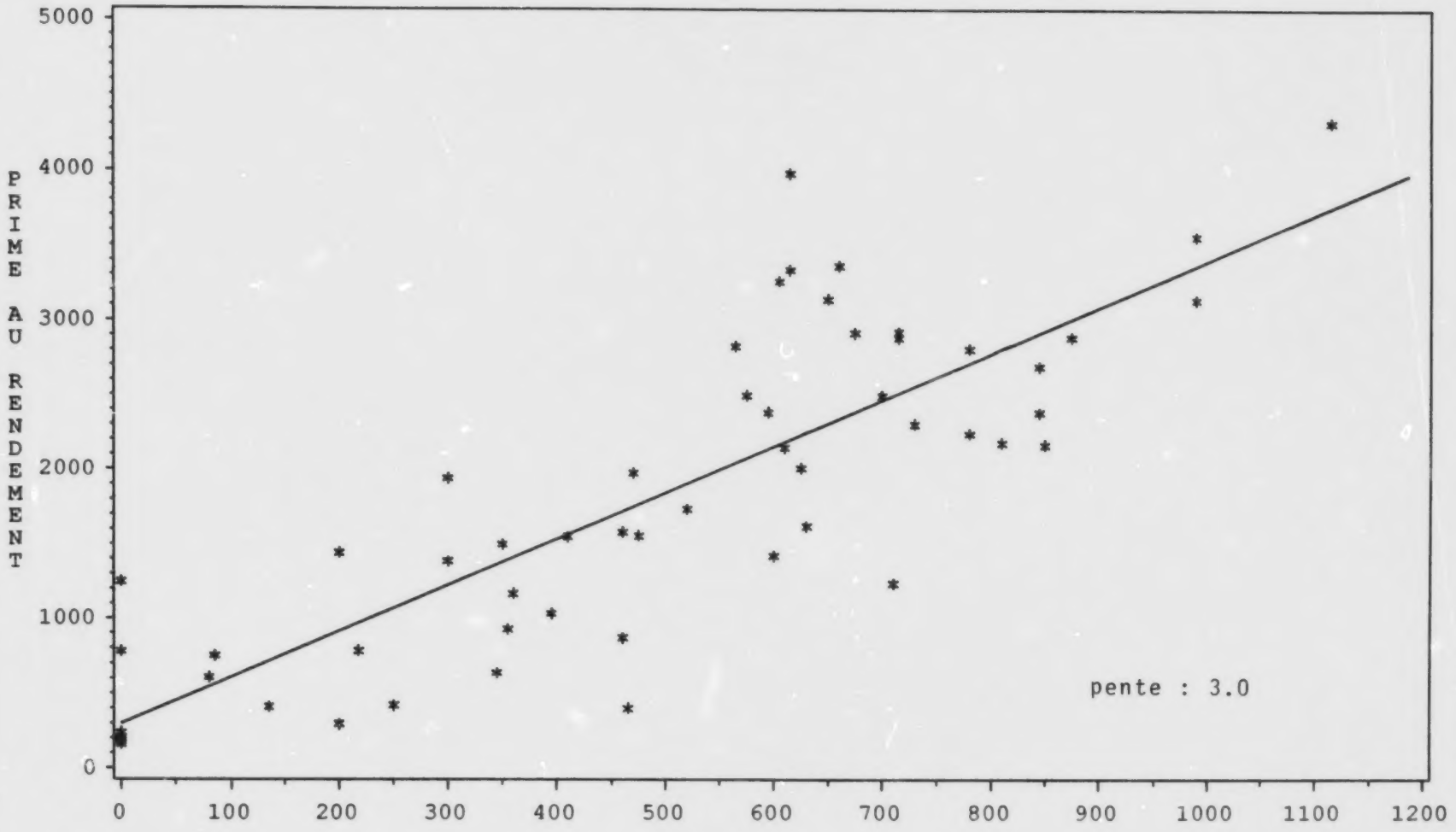


Figure E.74

NOTE: PRIME AU RENDEMENT EN $ COURANT

BONI PAR TONNE CASSEE VS LE NOMBRE DE TONNES PAR QUART-HOMME

ABATTAGE CHAMBRES REMBLAYEES

MINE E

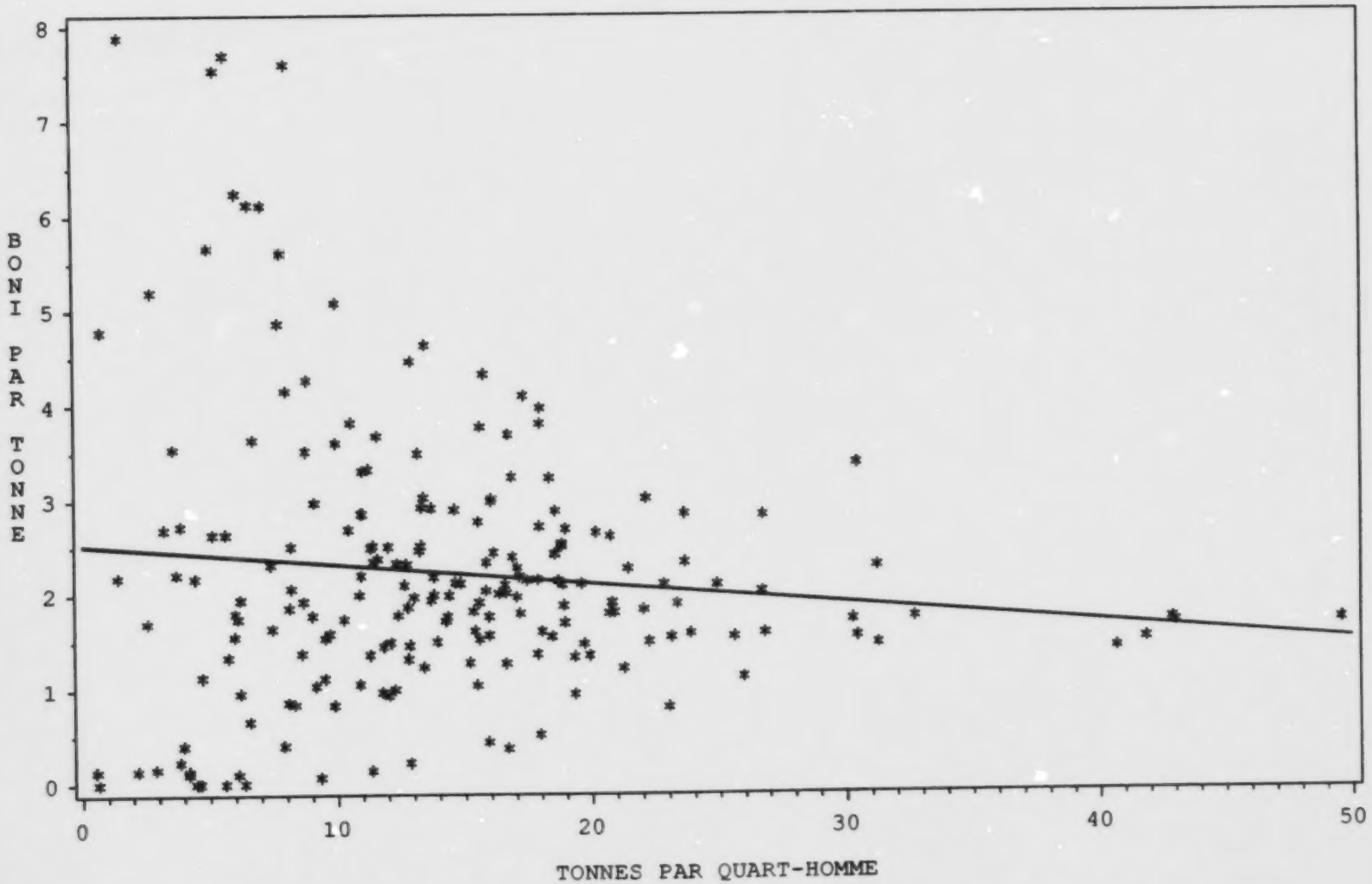


Figure E.75

NOTE: PRIME AU RENDEMENT EN $ COURANT

BONI PAR TONNE CASSEE VS LE NOMBRE DE TONNES PAR QUART-HOMME

ABATTAGE CHAMBRES MAGASINS

MINE E

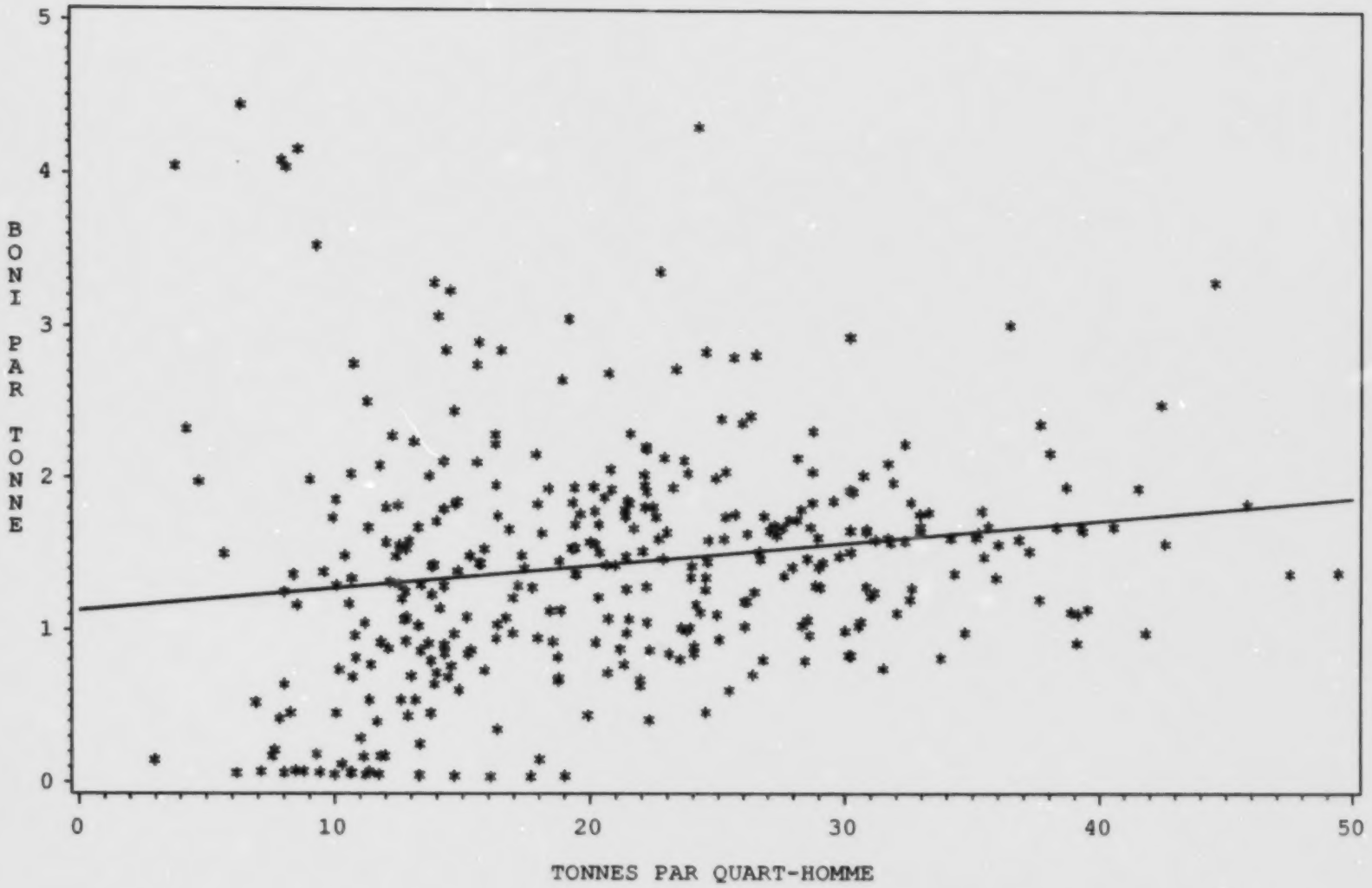


Figure E.76

NOTE: PRIME AU RENDEMENT EN $ COURANT

BONI PAR TONNE CASSEE VS LE NOMBRE DE TONNES PAR QUART-HOMME

RECUPERATION DE PILIERS

MINE E

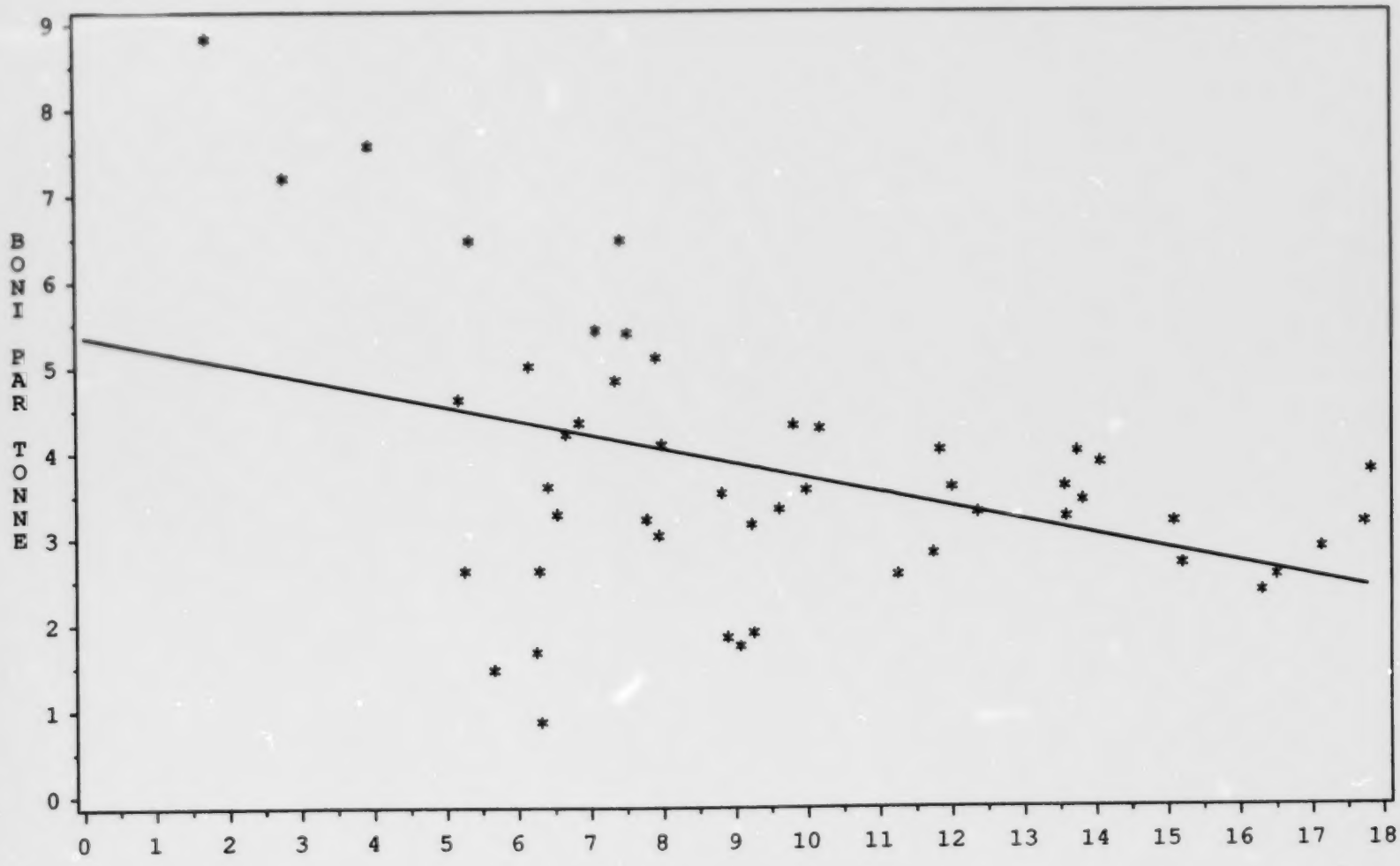


Figure E.77

NOTE: PRIME AU RENDEMENT EN $ COURANT

NOMBRE TOTAL DE BOULONS INSTALLES VS LE NOMBRE DE QUARTS-HOMMES

ABATTAGE CHAMBRES REMBLAYEES

MINE E

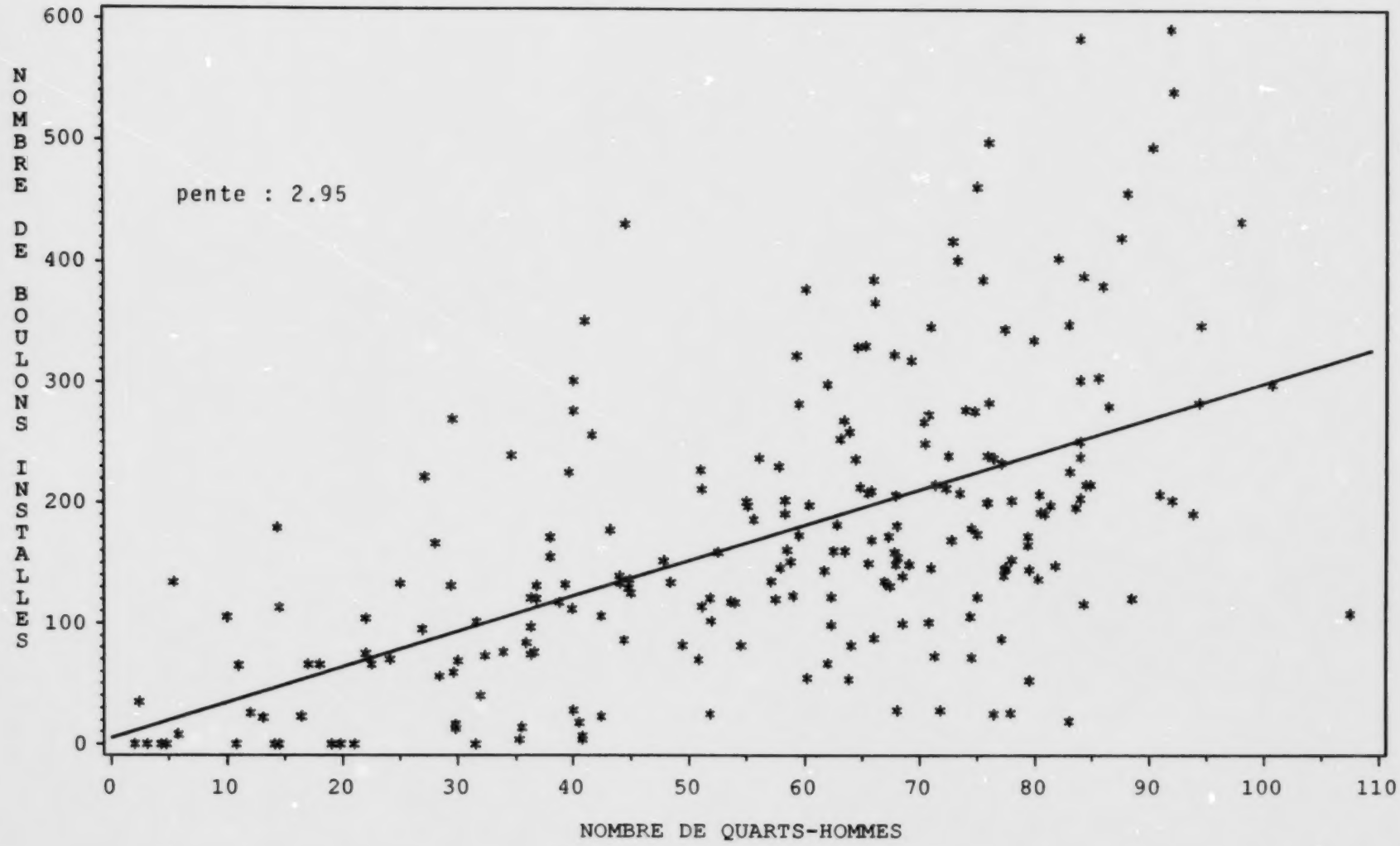


Figure E.78

NOTE: QUARTS-HOMMES DE PRODUCTION

NOMBRE TOTAL DE BOULONS INSTALLES VS LE NOMBRE DE QUARTS-HOMMES (PRODUCTION)

ABATTAGE CHAMBRES MAGASINS

MINE E

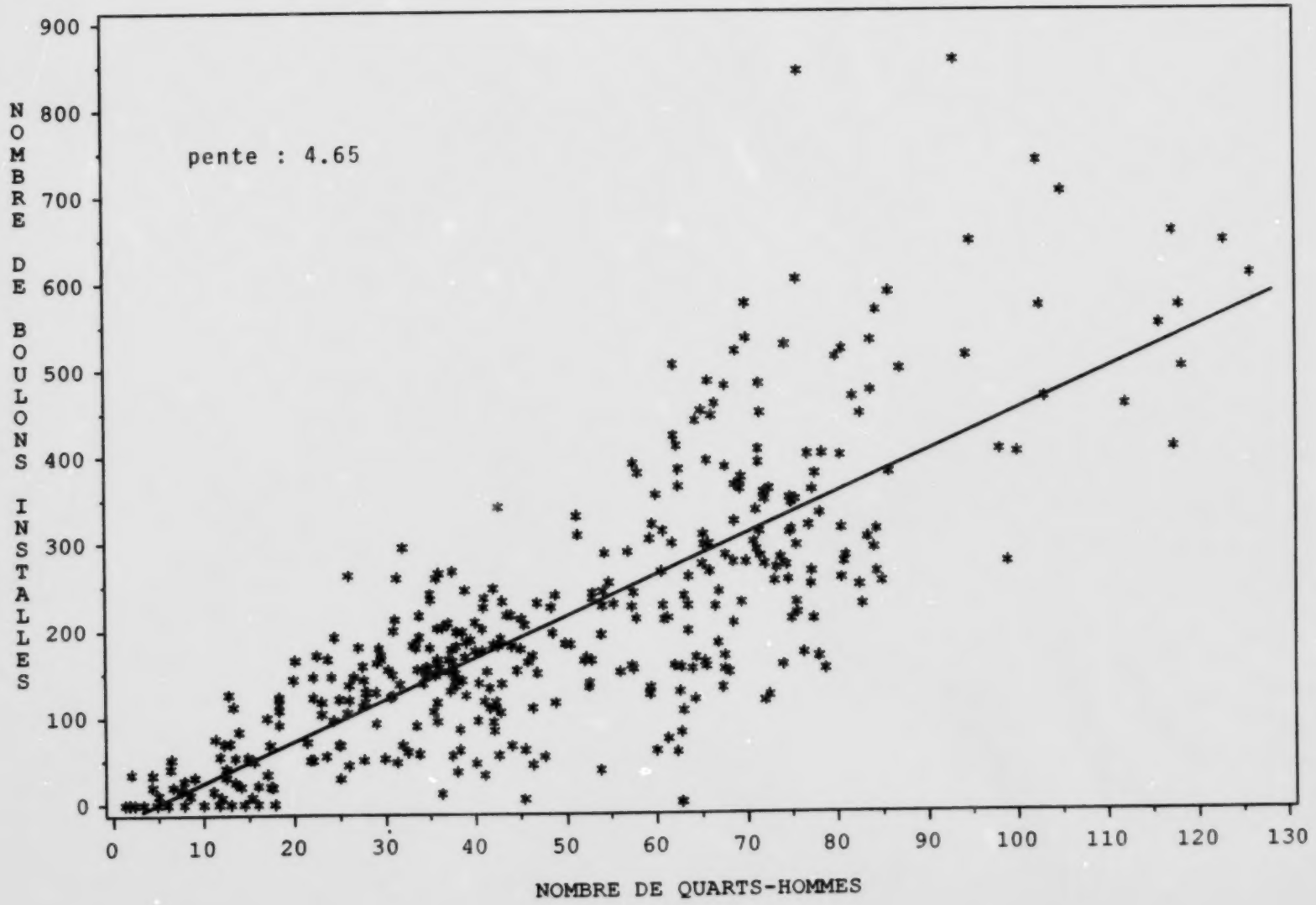


Figure E.79

PRIME AU RENDEMENT VS LE NOMBRE TOTAL DE BOULONS INSTALLES

ABATTAGE CHAMBRES REMBLAYEES

MINE E

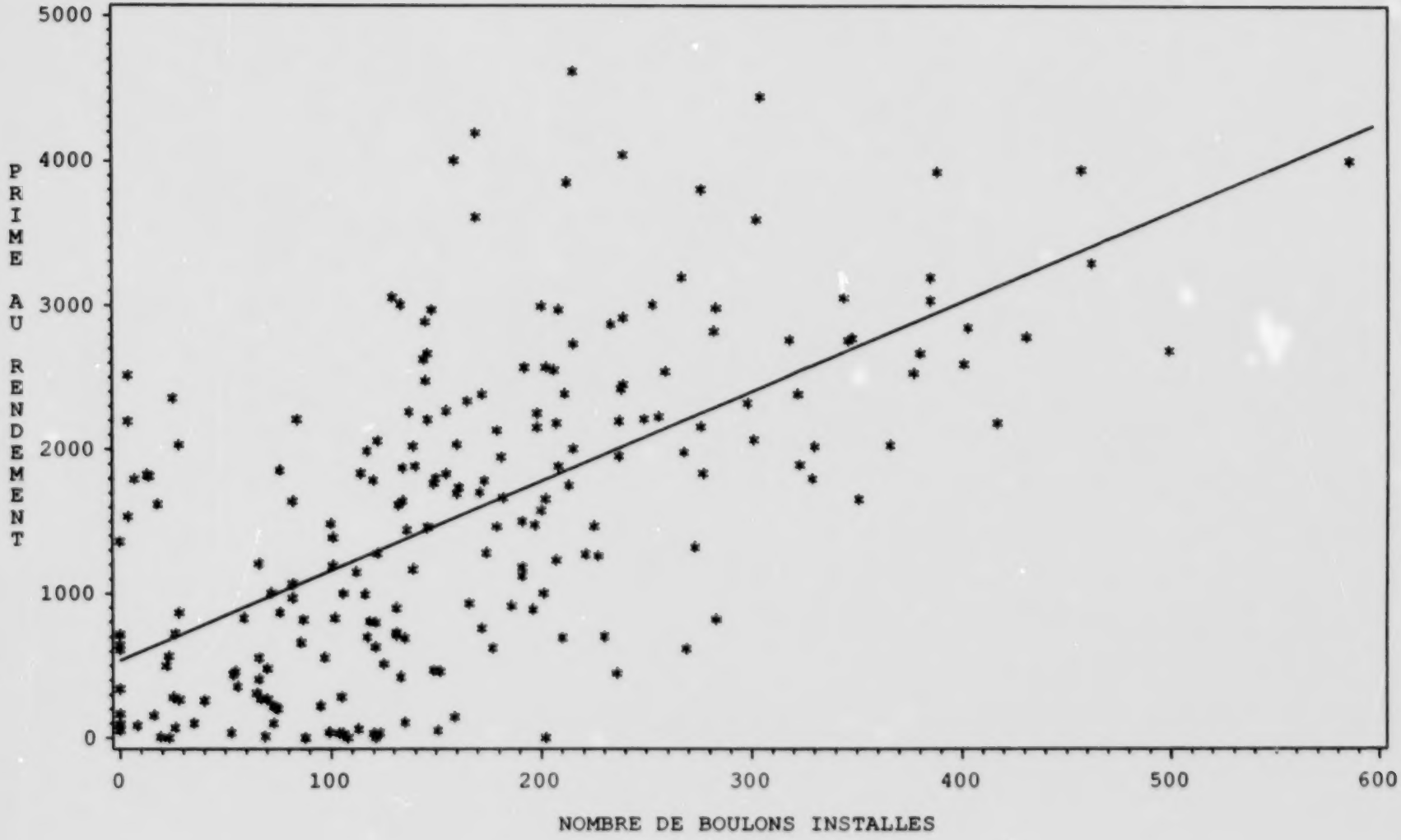


Figure E.80

NOTE: PRIME AU RENDEMENT EN $ COURANT

PRIME AU RENDEMENT VS LE NOMBRE TOTAL DE BOULONS INSTALLES

ABATTAGE CHAMBRES MAGASINS

MINE E

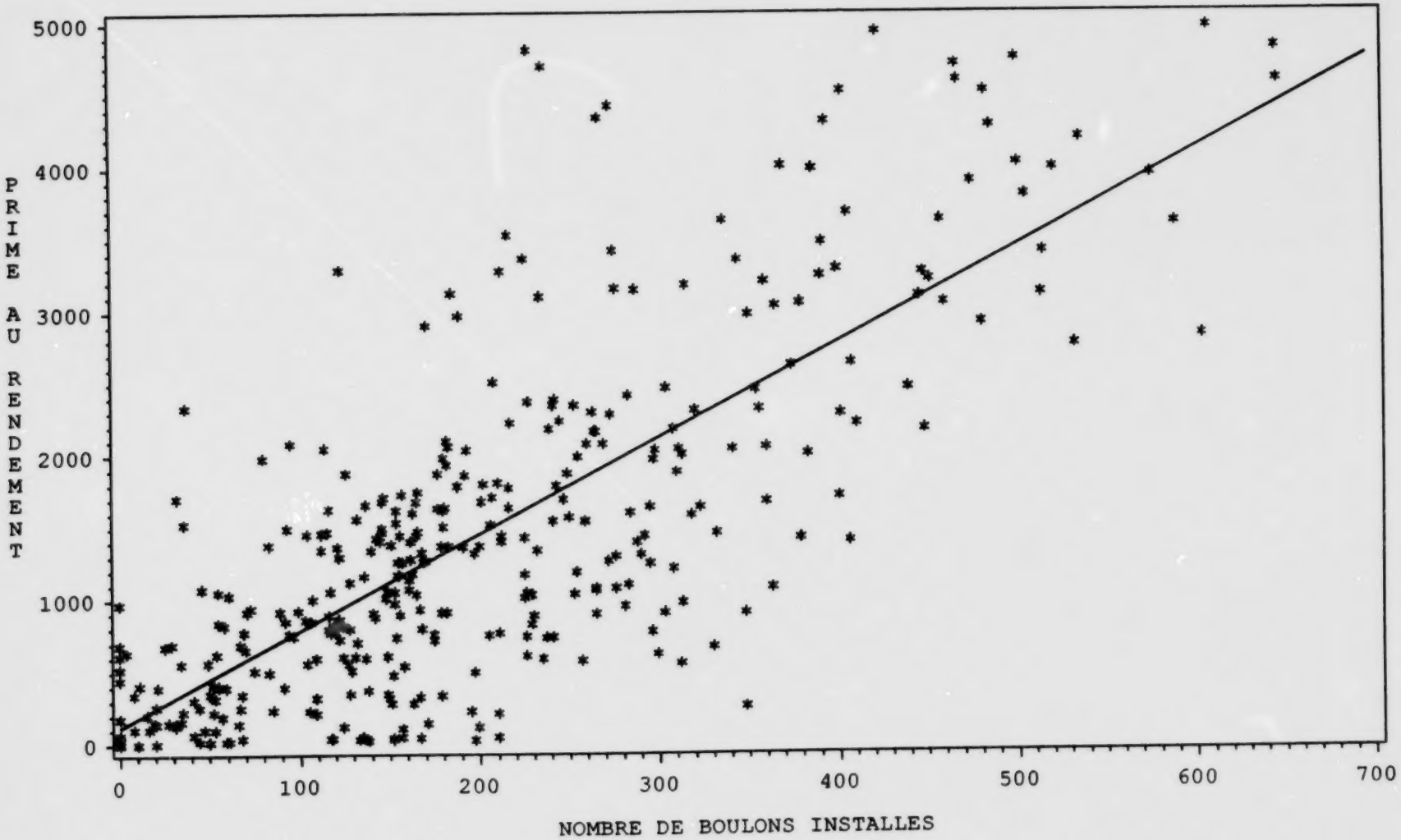


Figure E.81

NOTE: PRIME AU RENDEMENT EN $ COURANT

TONNES CASSEES/QUART-HOMME VS L'AGE DES CHANTIERS

ABATTAGE CHAMBRES REMBLAYEES

MINE E

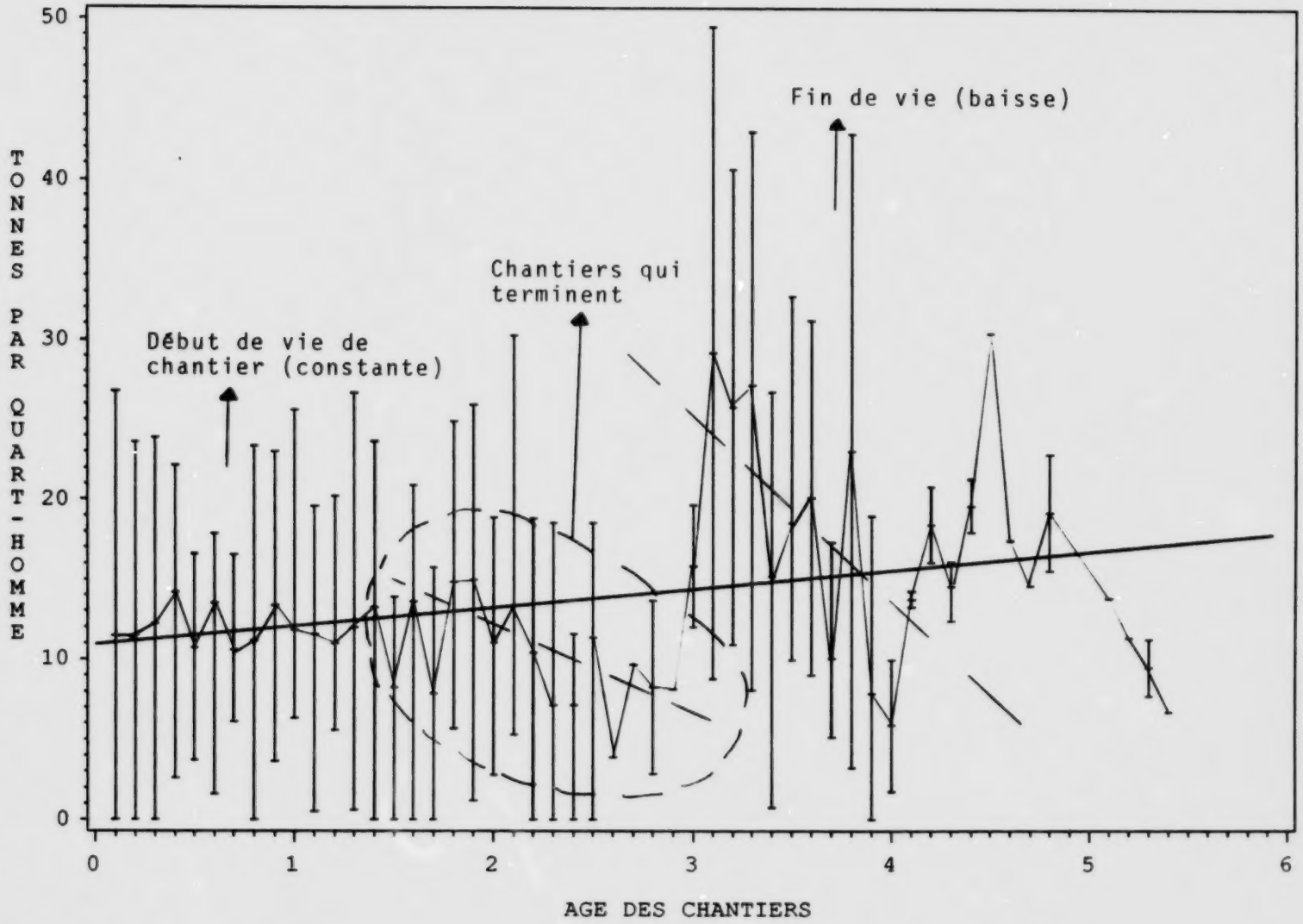


Figure E.82

TONNES CASSEES/QUART-HOMME VS L'AGE DES CHANTIERS

ABATTAGE CHAMBRES MAGASINS

MINE E

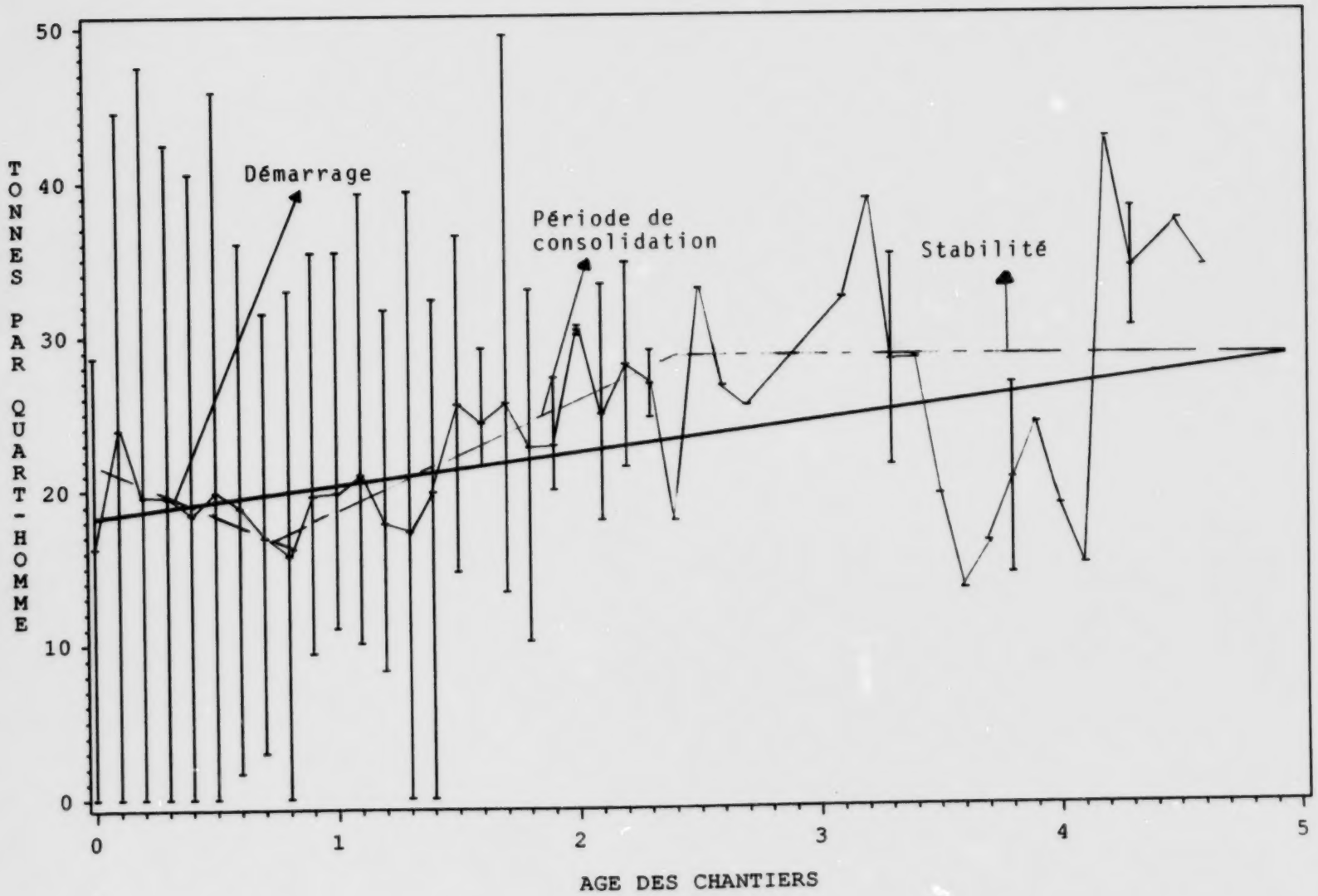
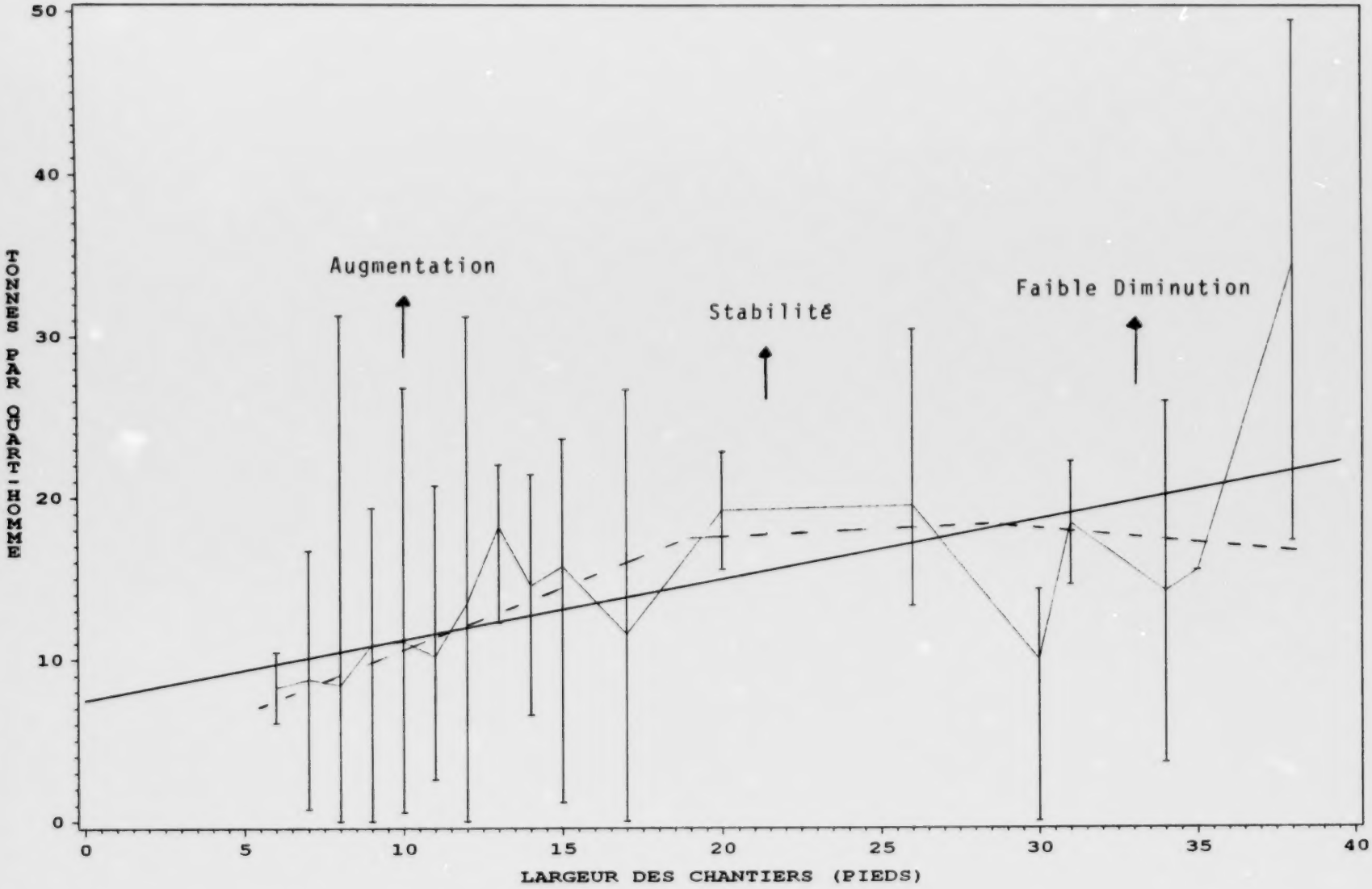


Figure E.83

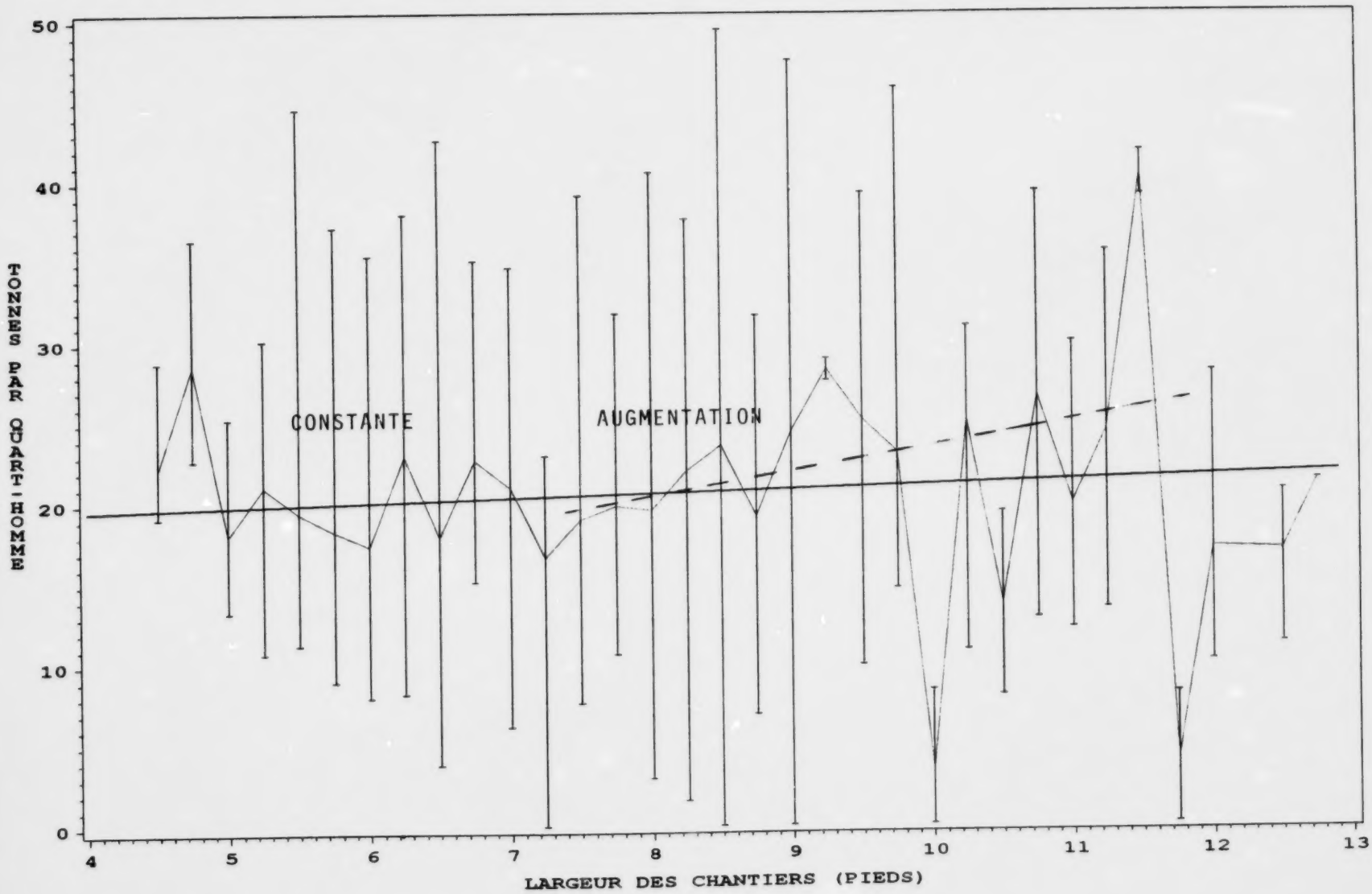
TONNES CASSEES/QUART-HOMME VS LARGEUR DES CHANTIERS
ABATTAGE CHAMBRES REMBLAYEES
MINE E



NOTE: LARGEURS MESUREES EN PIEDS

FIGURE E.84

TONNES CASSEES/QUART-HOMME VS LARGEUR DES CHANTIERS
ABATTAGE CHAMBRES MAGASINS
MINE E



NOTE: LARGEURS MESUREES EN PIEDS

FIGURE E.85

TONNES CASSEES/PIED DE FORAGE VS LA LARGEUR DES CHANTIERS

ABATTAGE CHAMBRES REMBLAYEES

MINE E

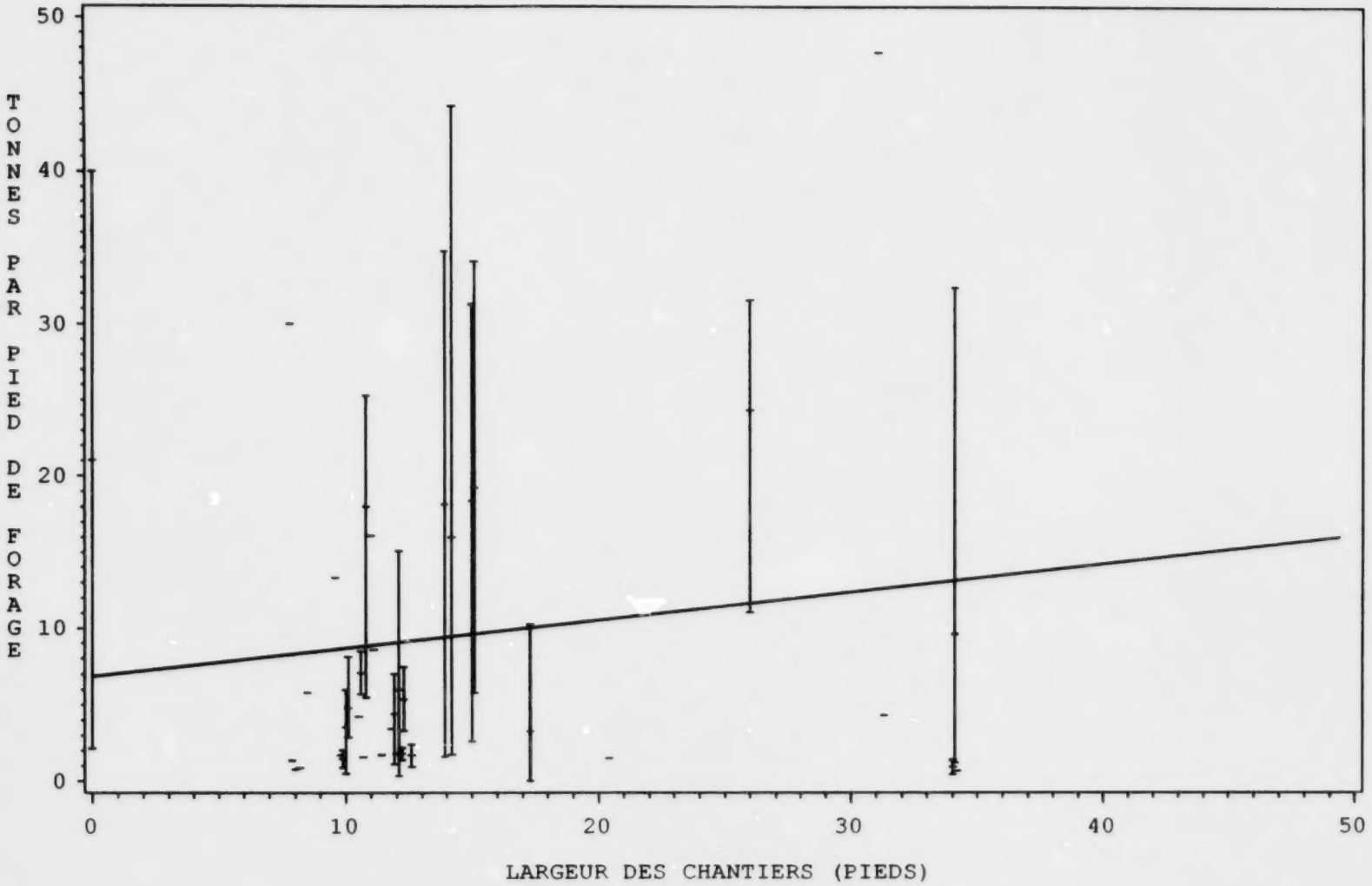


Figure E.86

NOTE: LARGEURS MESUREES EN PIEDS

TONNES CASSEES/PIED DE FORAGE VS LA LARGEUR DES CHANTIERS

ABATTAGE CHAMBRES MAGASINS

MINE E

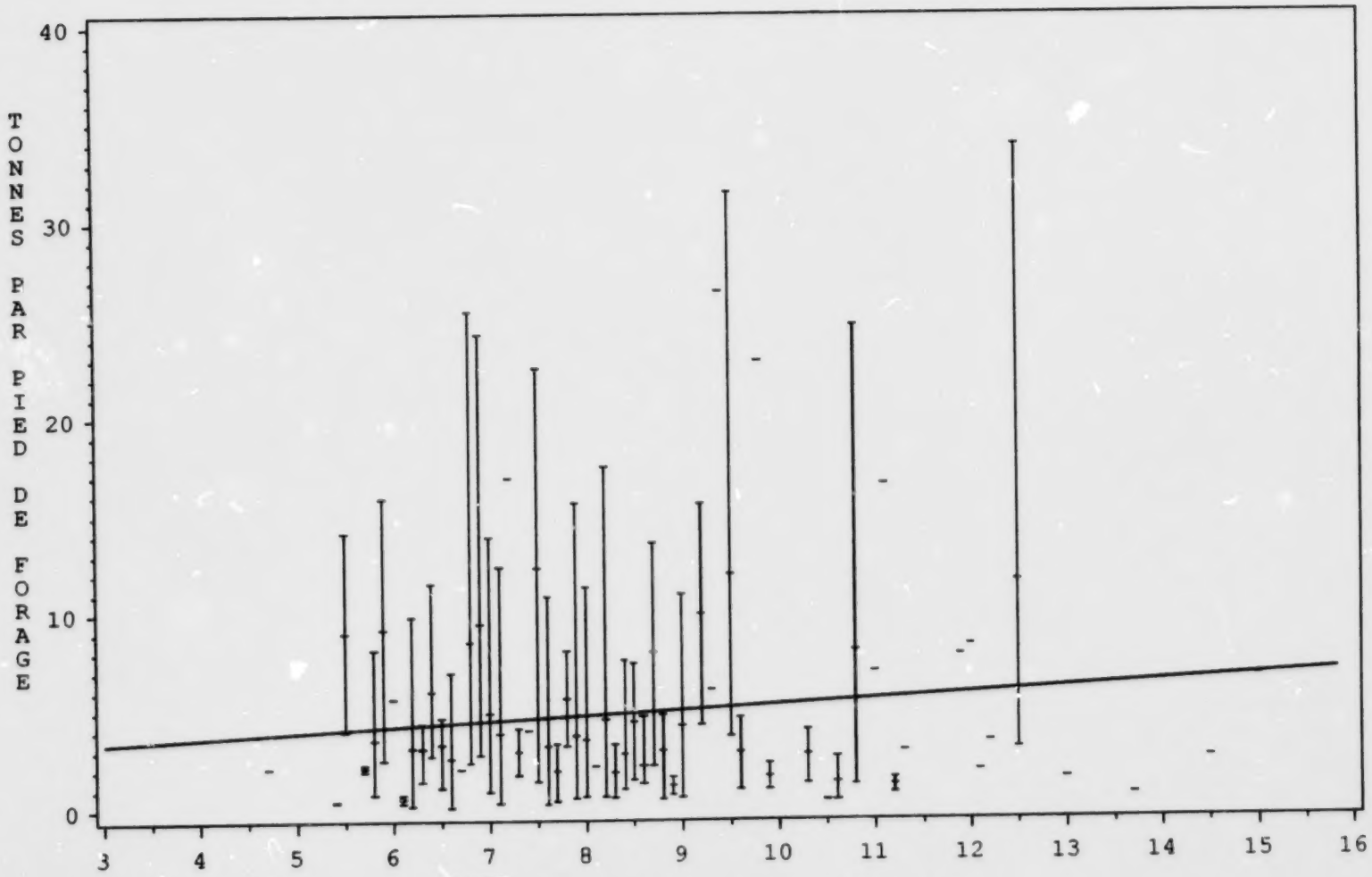


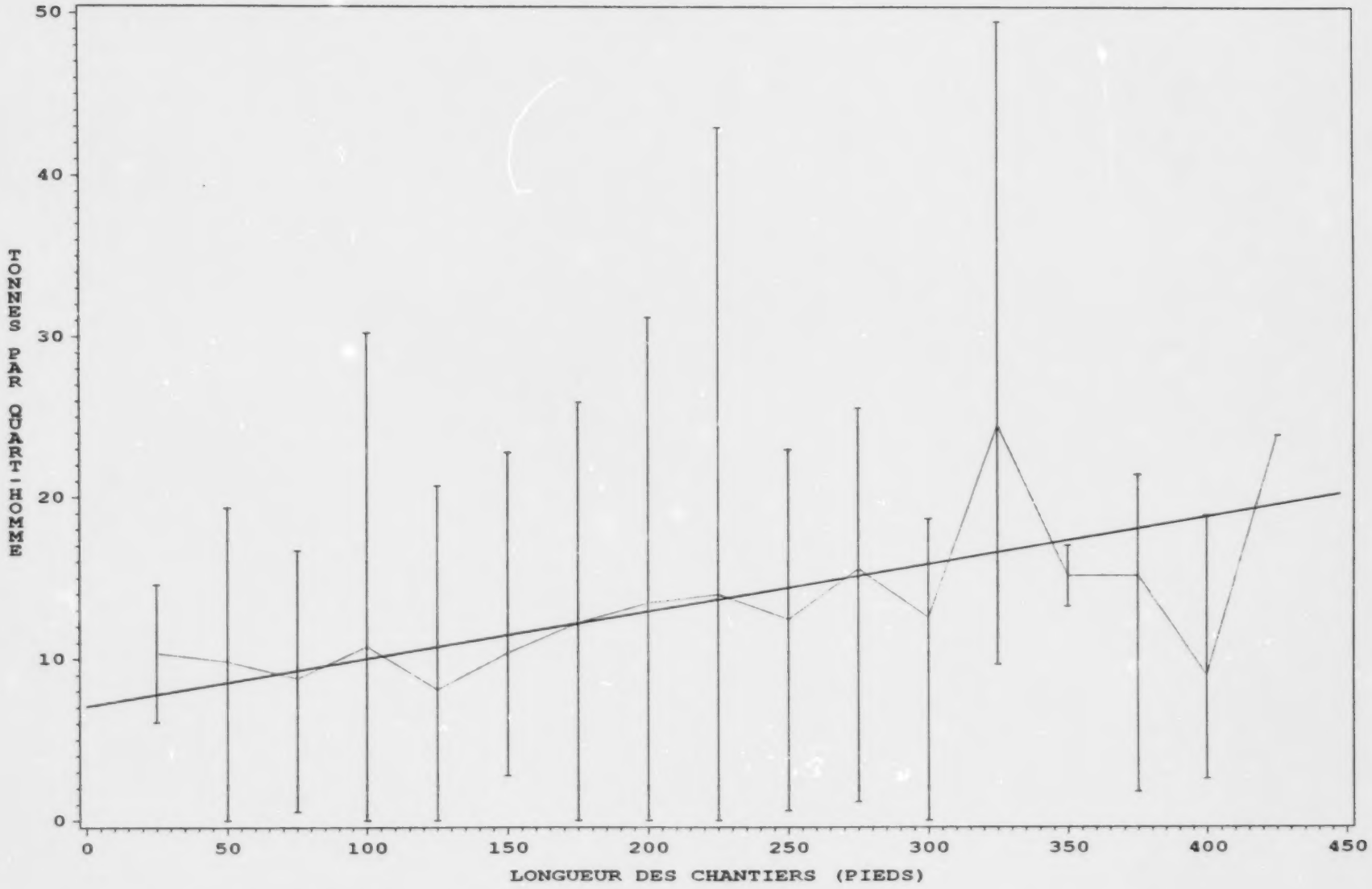
Figure E.87

NOTE: LARGEURS MESUREES EN PIEDS

TONNES CASSEES/QUART-HOMME VS LONGUEUR DES CHANTIERS

ABATTAGE CHAMBRES REMBLAYEES

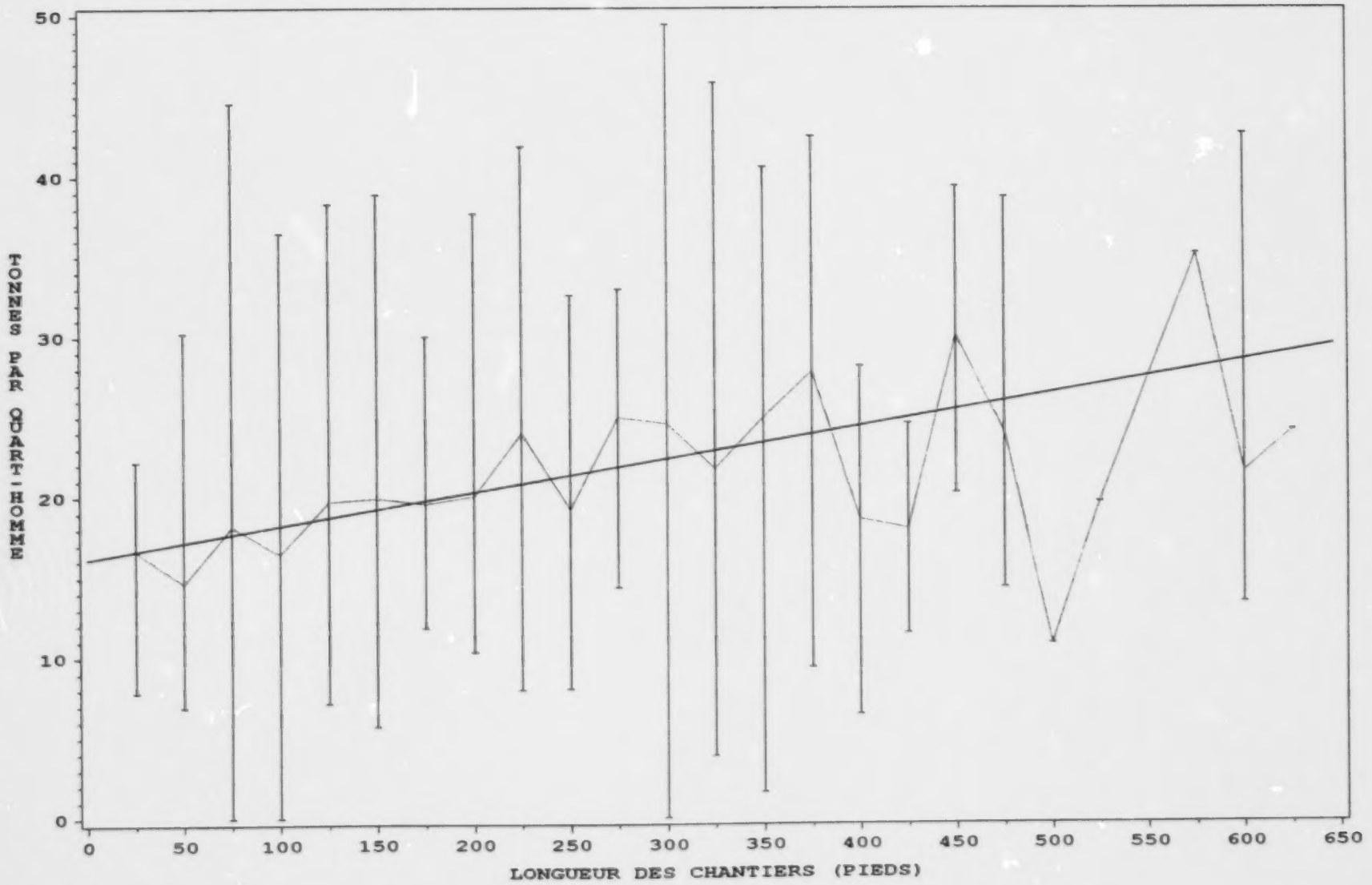
MINE E



NOTE: LONGUEURS MESUREES EN PIEDS

FIGURE E.88

TONNES CASSEES/QUART-HOMME VS LONGUEUR DES CHANTIERS
ABATTAGE CHAMBRES MAGASINS
MINE E



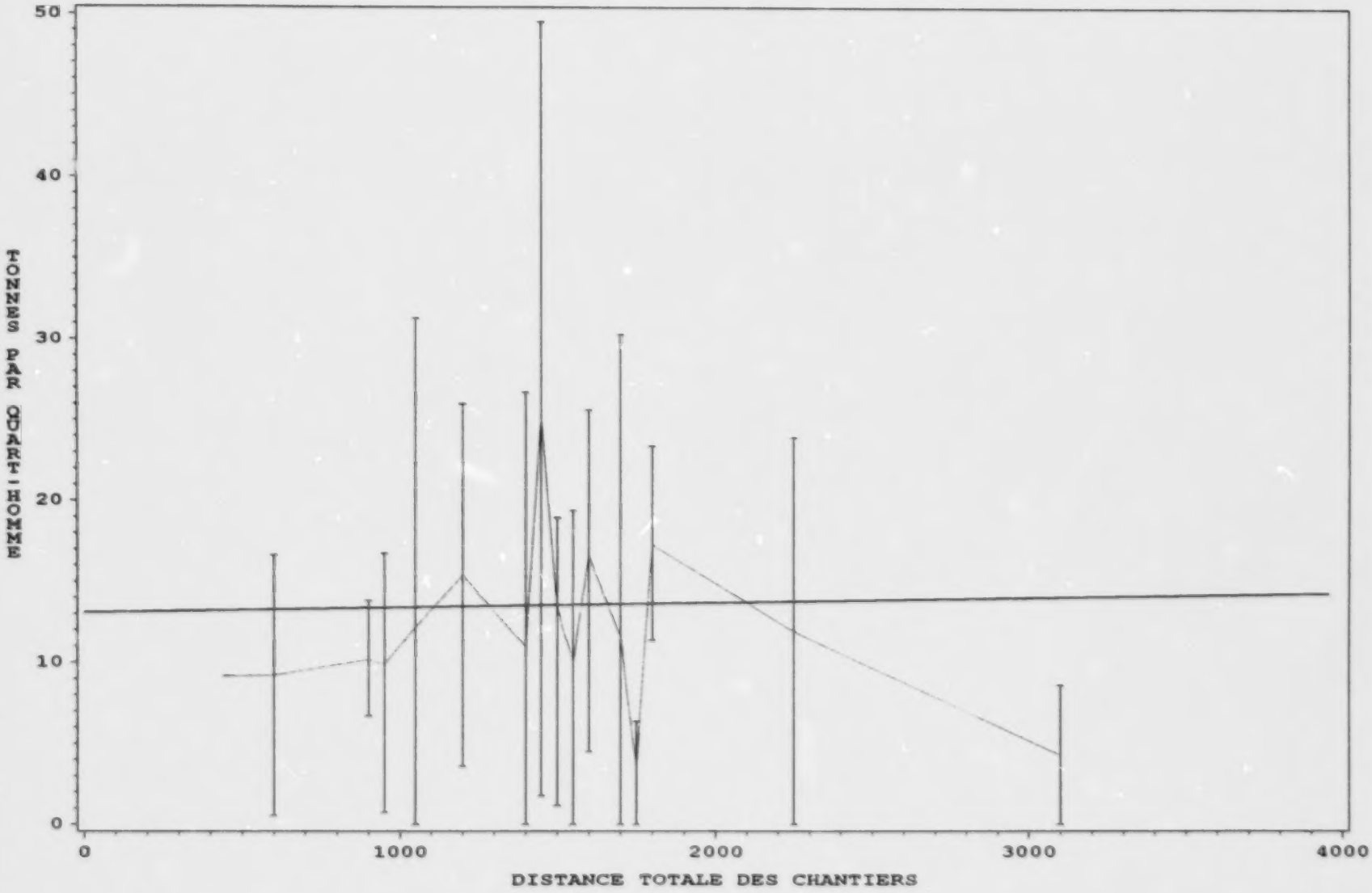
NOTE: LONGUEURS MESUREES EN PIEDS

FIGURE E.89

TONNES CASSEES/QUART-HOMME VS DISTANCE DES CHANTIERS

ABATTAGE CHAMBRES REMBLAYEES

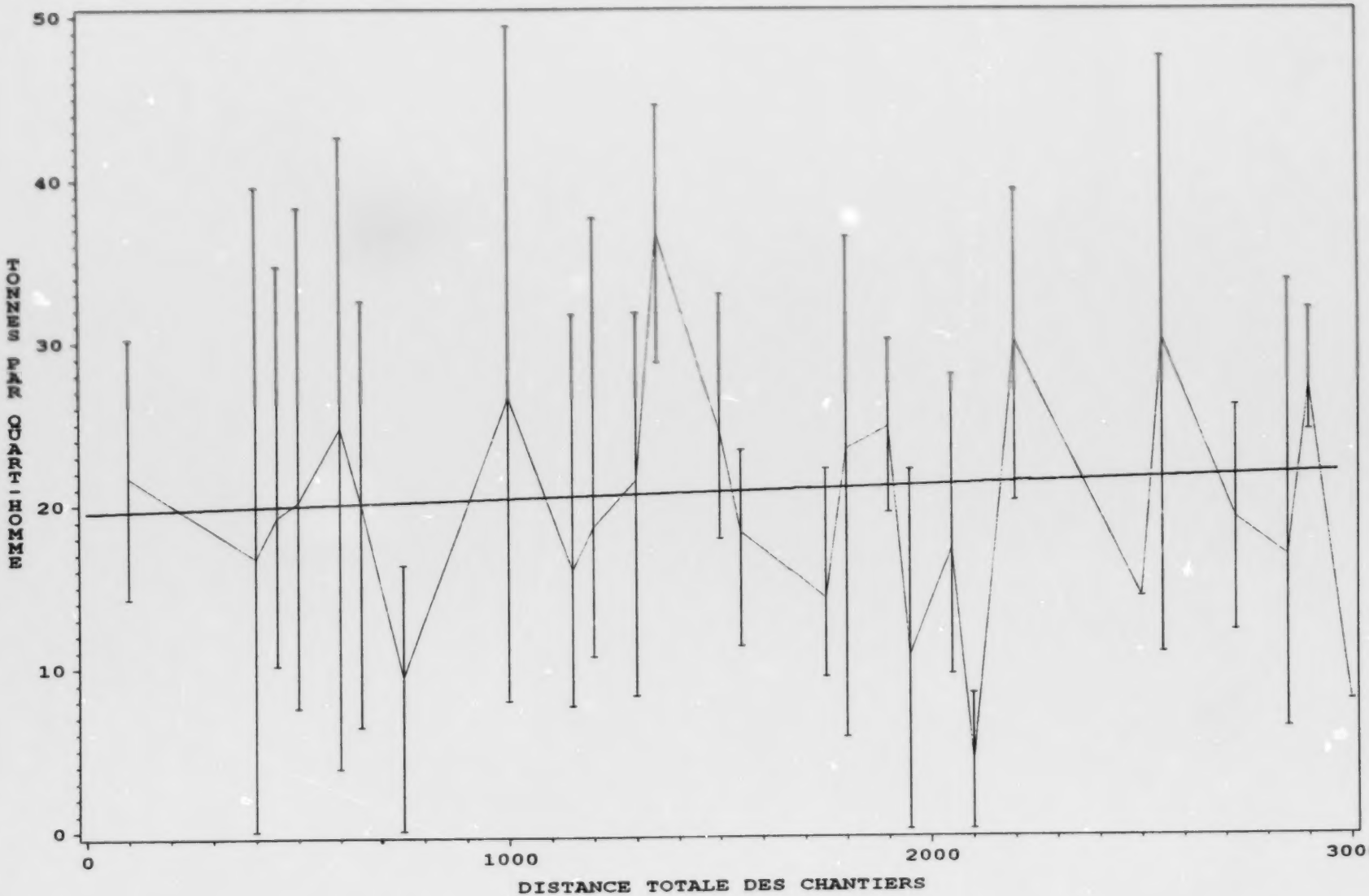
MINE E



NOTE: DISTANCES MESUREES EN PIEDS

FIGURE E.90

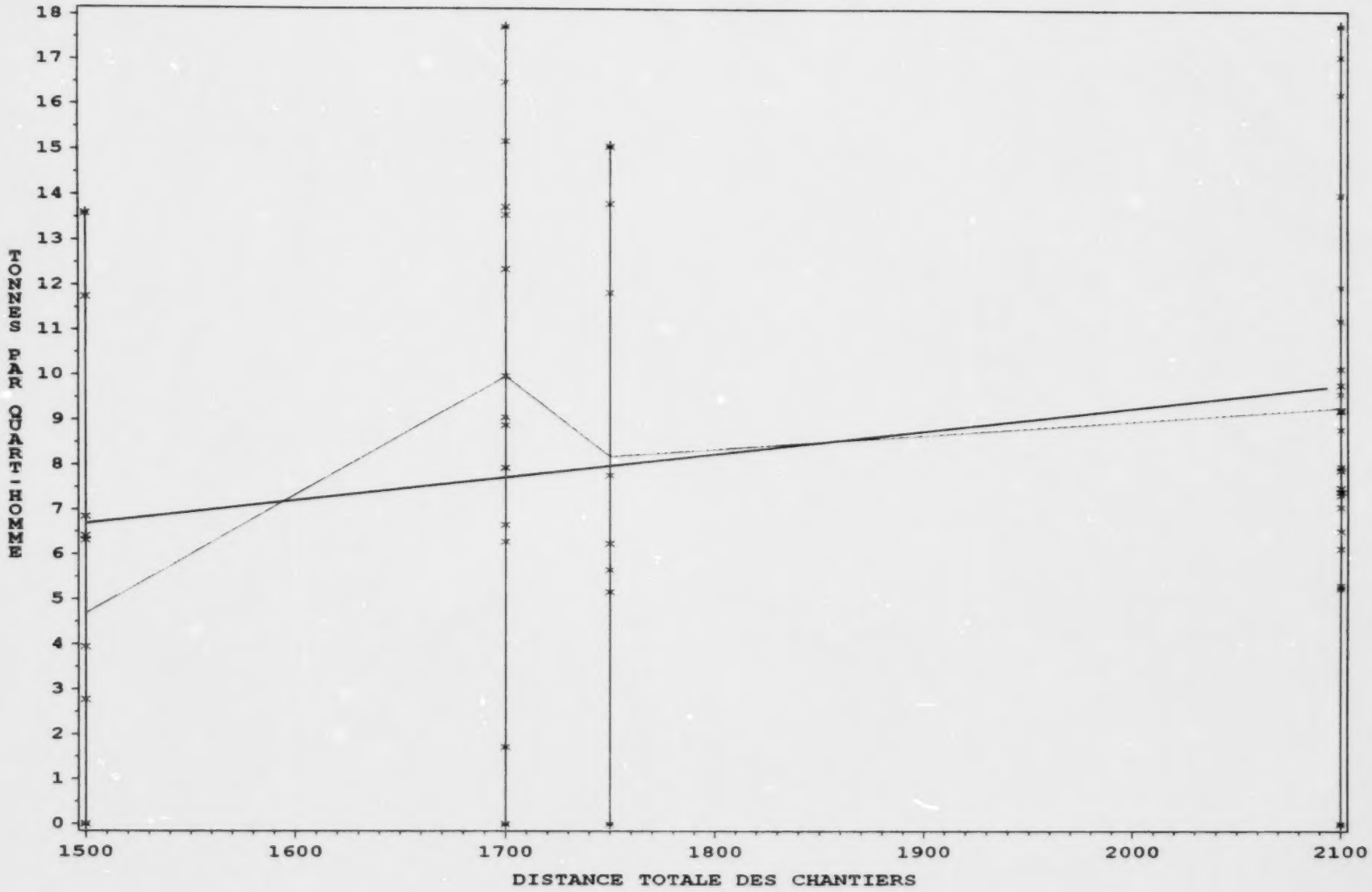
TONNES CASSEES/QUART-HOMME VS DISTANCE DES CHANTIERS
ABATTAGE CHAMBRES MAGASINS
MINE E



NOTE: DISTANCES MESUREES EN PIEDS

FIGURE E.91

TONNES CASSEES/QUART-HOMME VS DISTANCE DES CHANTIERS
RECUPERATION DE PILIERS
MINE E



NOTE: DISTANCES MESUREES EN PIEDS

FIGURE E.92

BONI PAR TONNE CASSEE VS L'AGE DES CHANTIERS

ABATTAGE CHAMBRES REMBLAYEES

MINE E

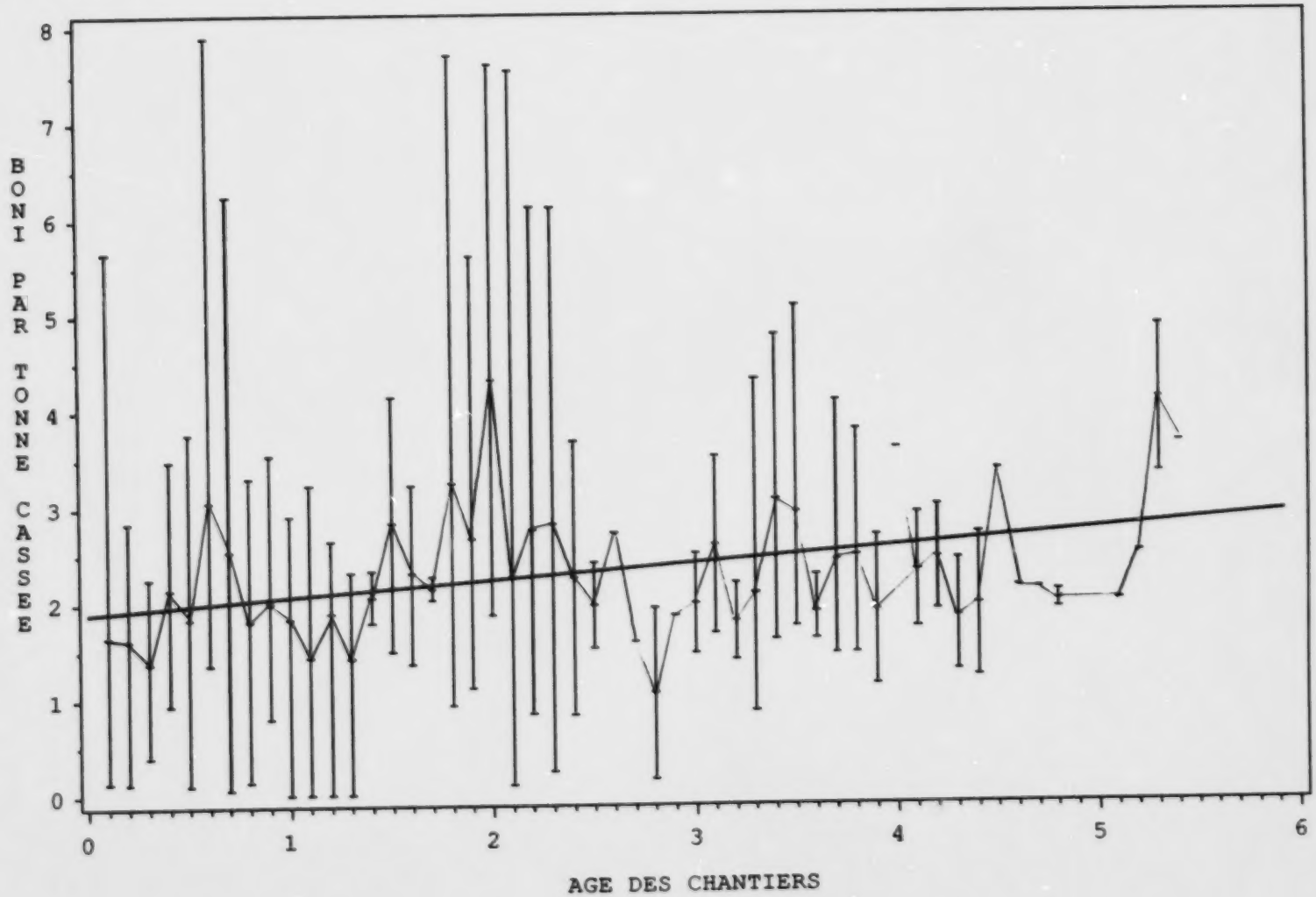


Figure E.93

NOTE: PRIME AU RENDEMENT EN $ COURANT

BONI PAR TONNE CASSEE VS L'AGE DES CHANTIERS

ABATTAGE CHAMBRES MAGASINS

MINE E

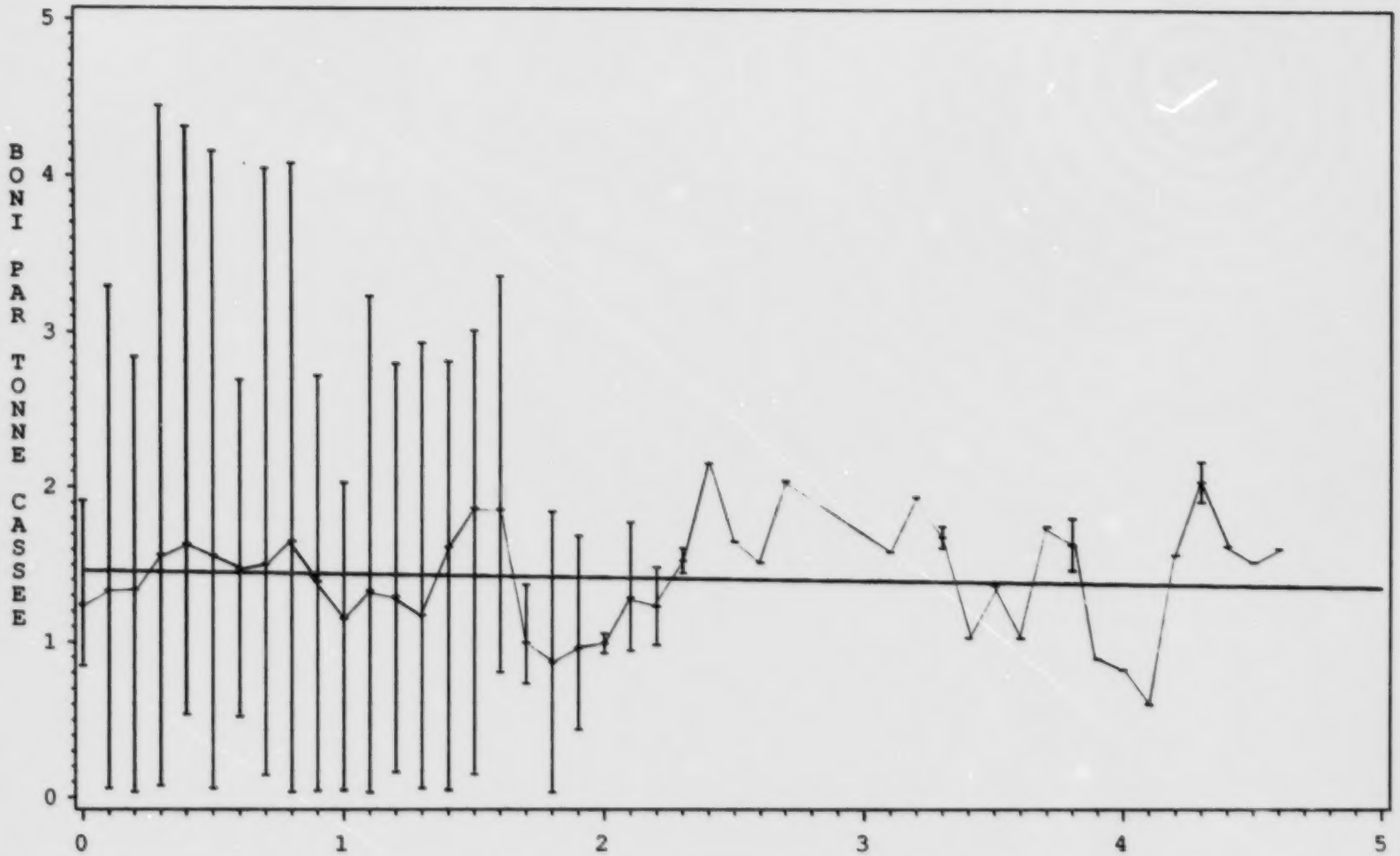


Figure E.94

NOTE: PRIME AU RENDEMENT EN $ COURANT

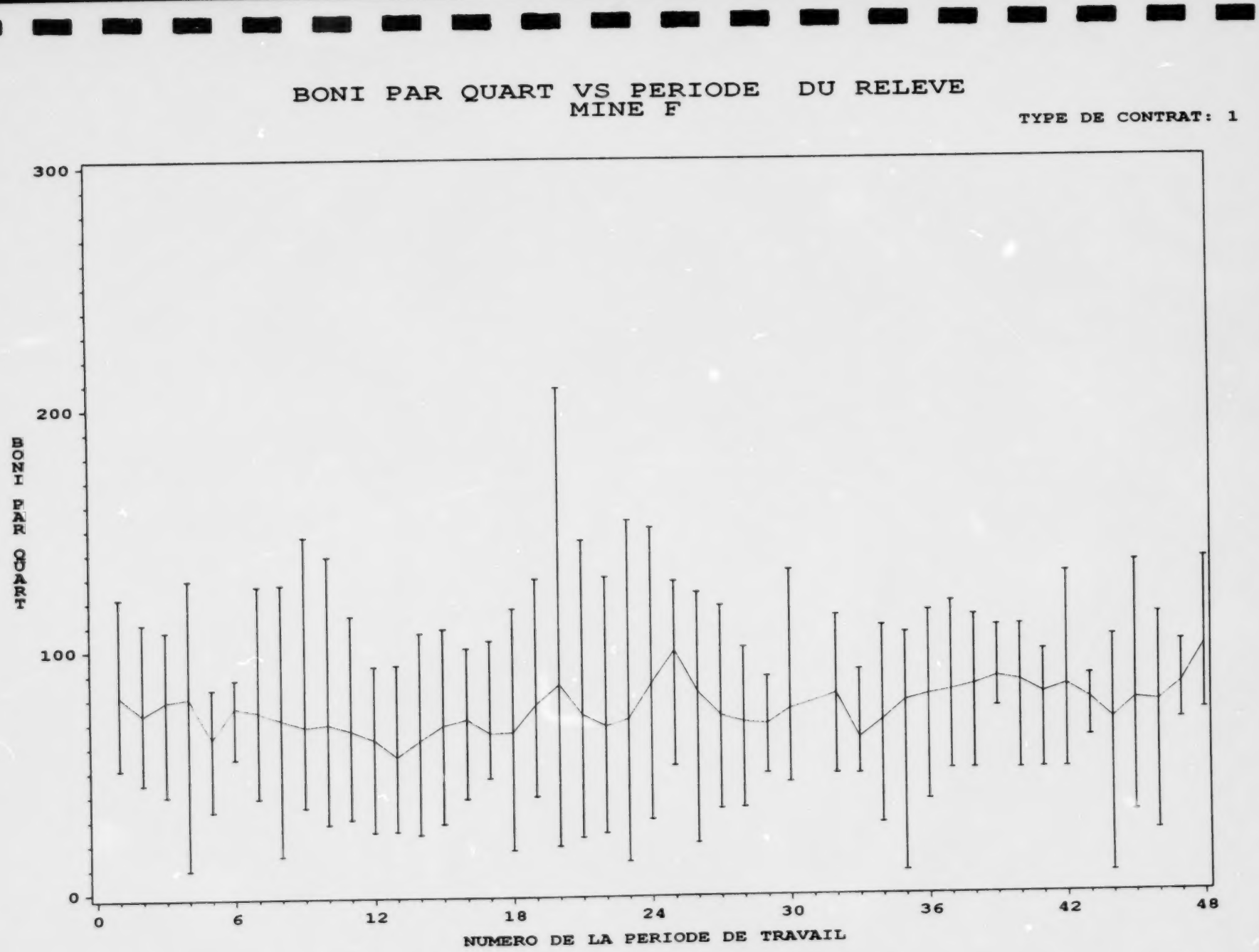

BONI PAR QUART VS PERIODE DU RELEVE
MINE F
TYPE DE CONTRAT: 1
300
200
100
0
BONI PAR QUART
0
6
12
18
24
30
36
42
48
NUMERO DE LA PERIODE DE TRAVAIL
FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.1

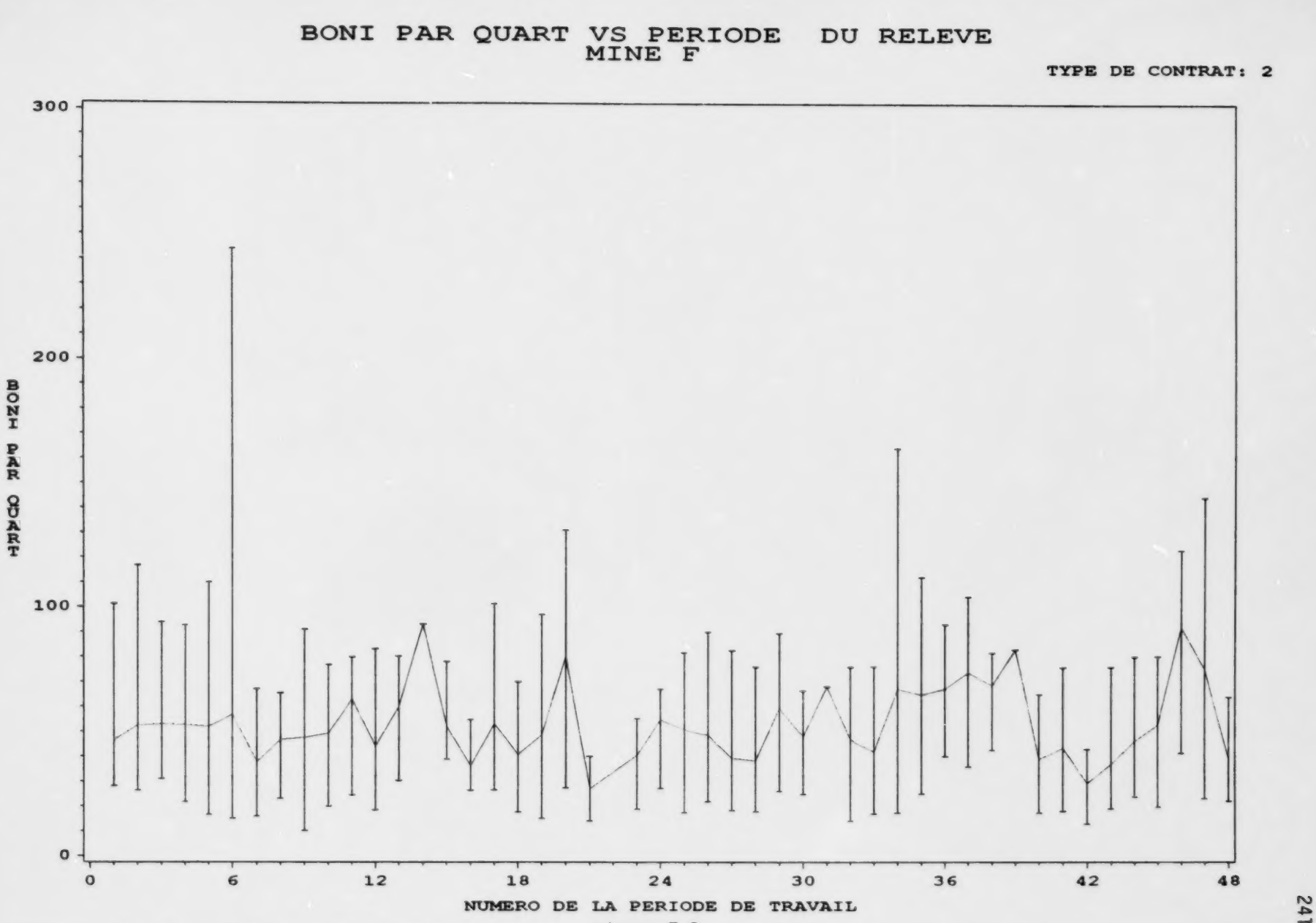
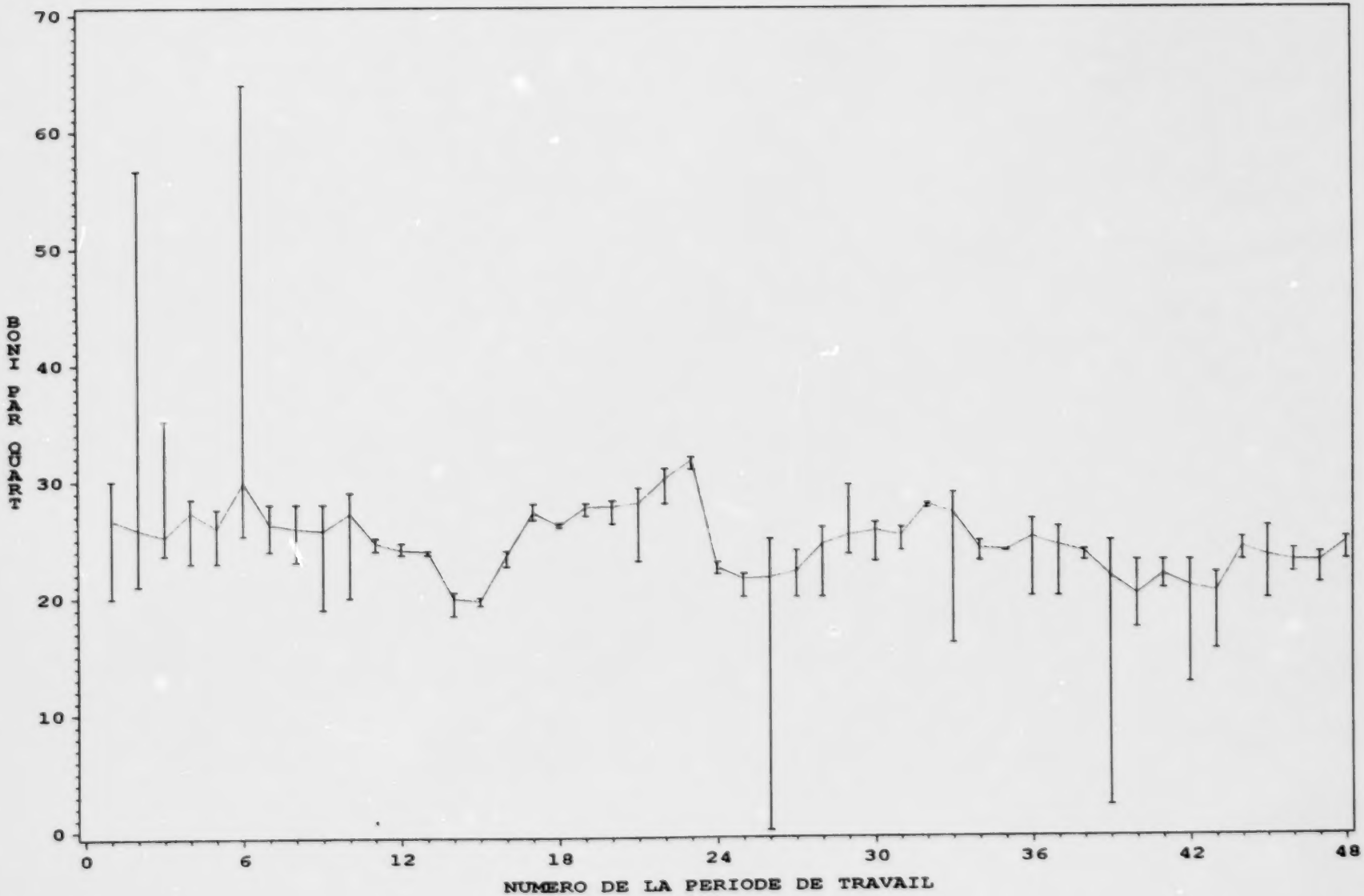


Figure F.2

FICHIER DES TRAVAILLEURS INDIVIDUELS

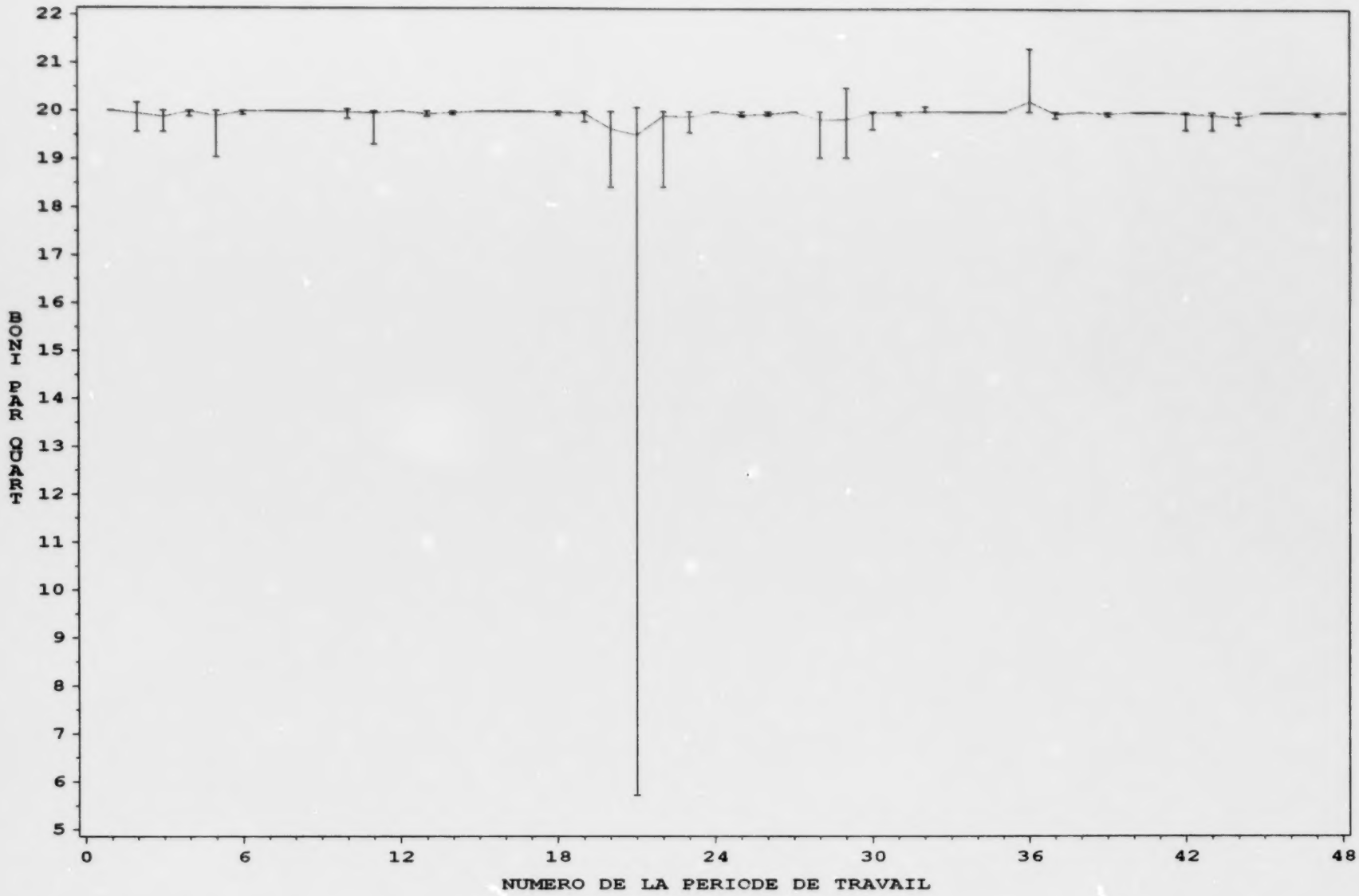
BONI PAR QUART VS PERIODE DU RELEVE
MINE F

TYPE DE CONTRAT: 3



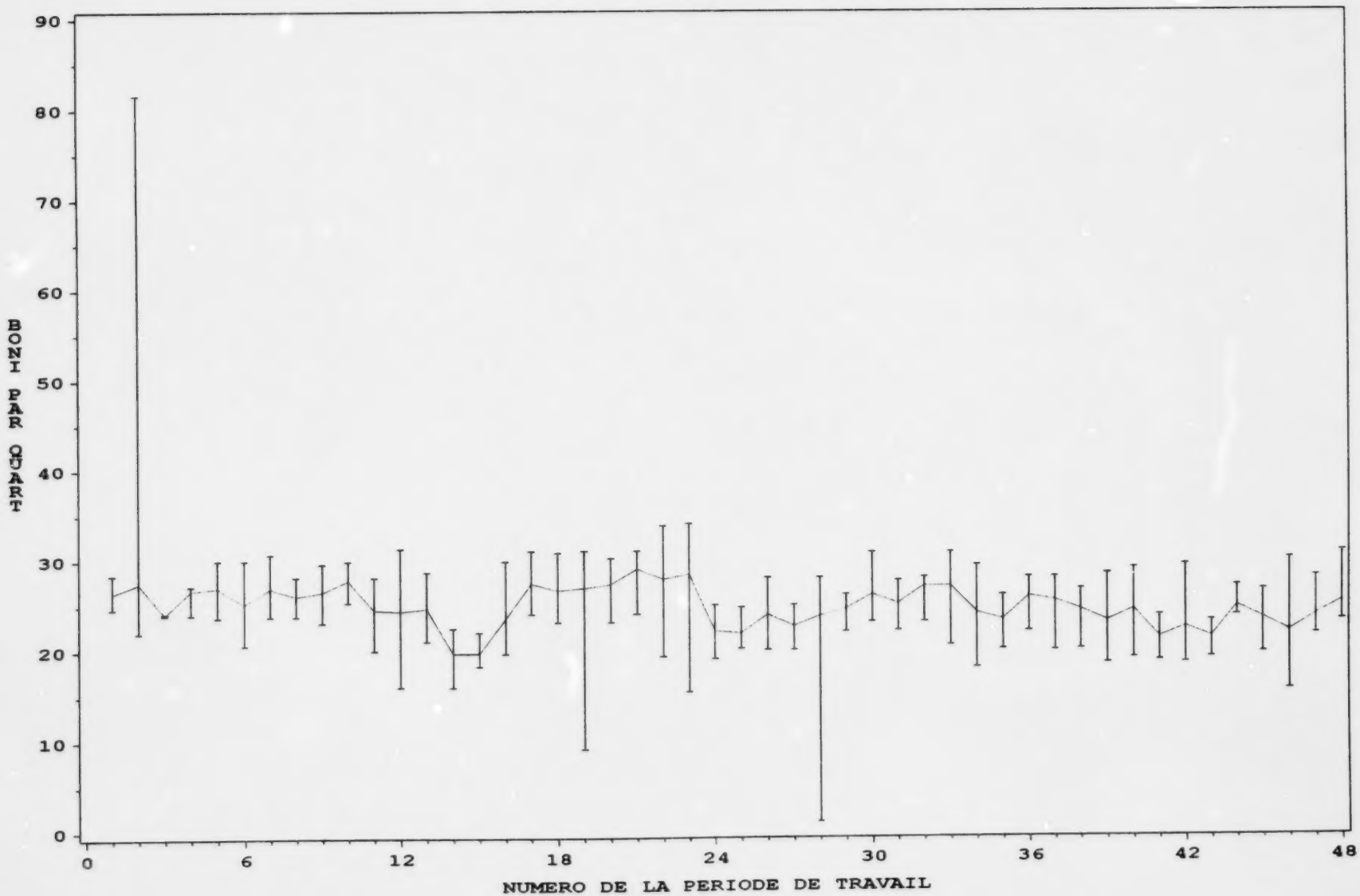
FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.3



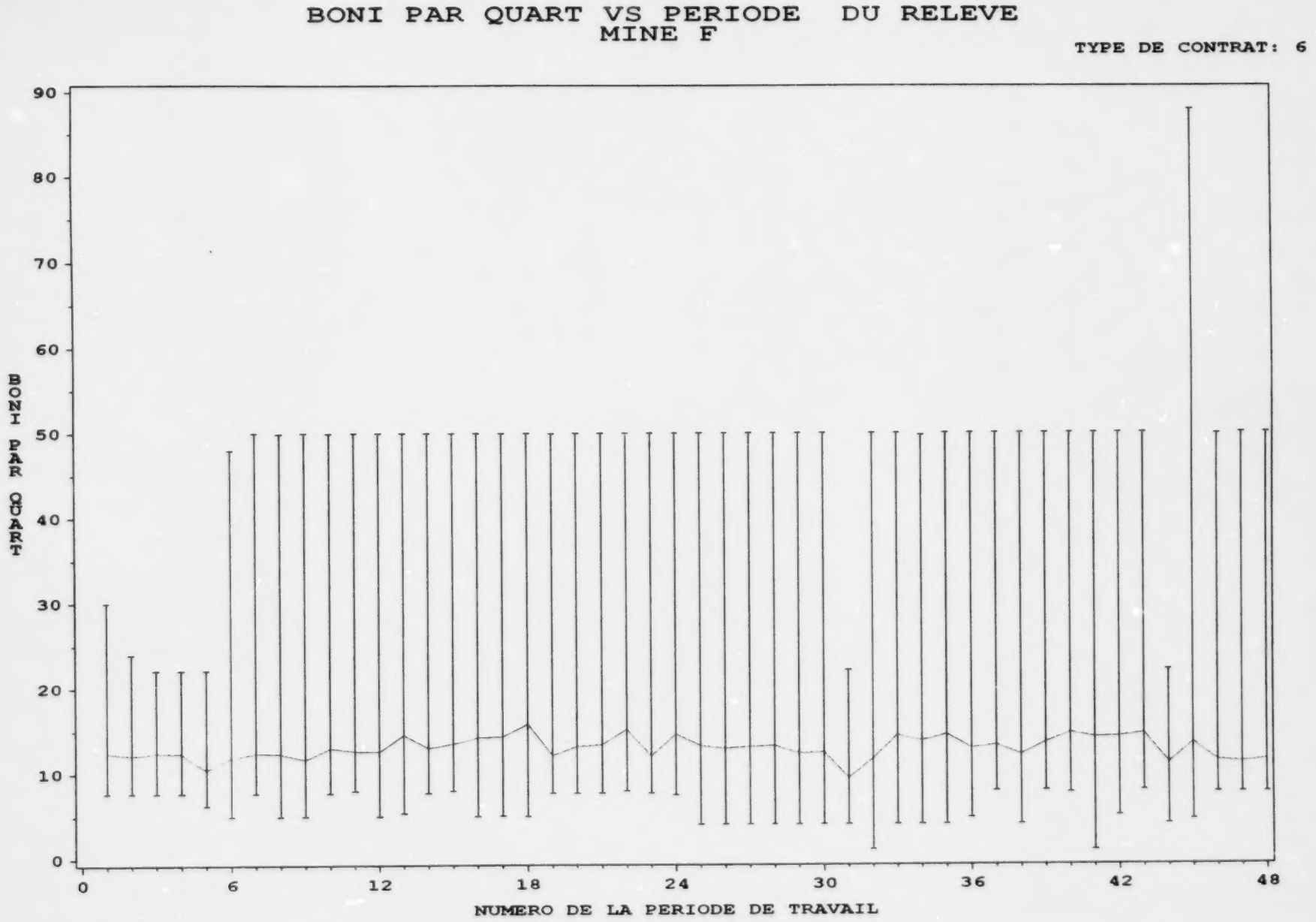
FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.4



FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.5



FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.6

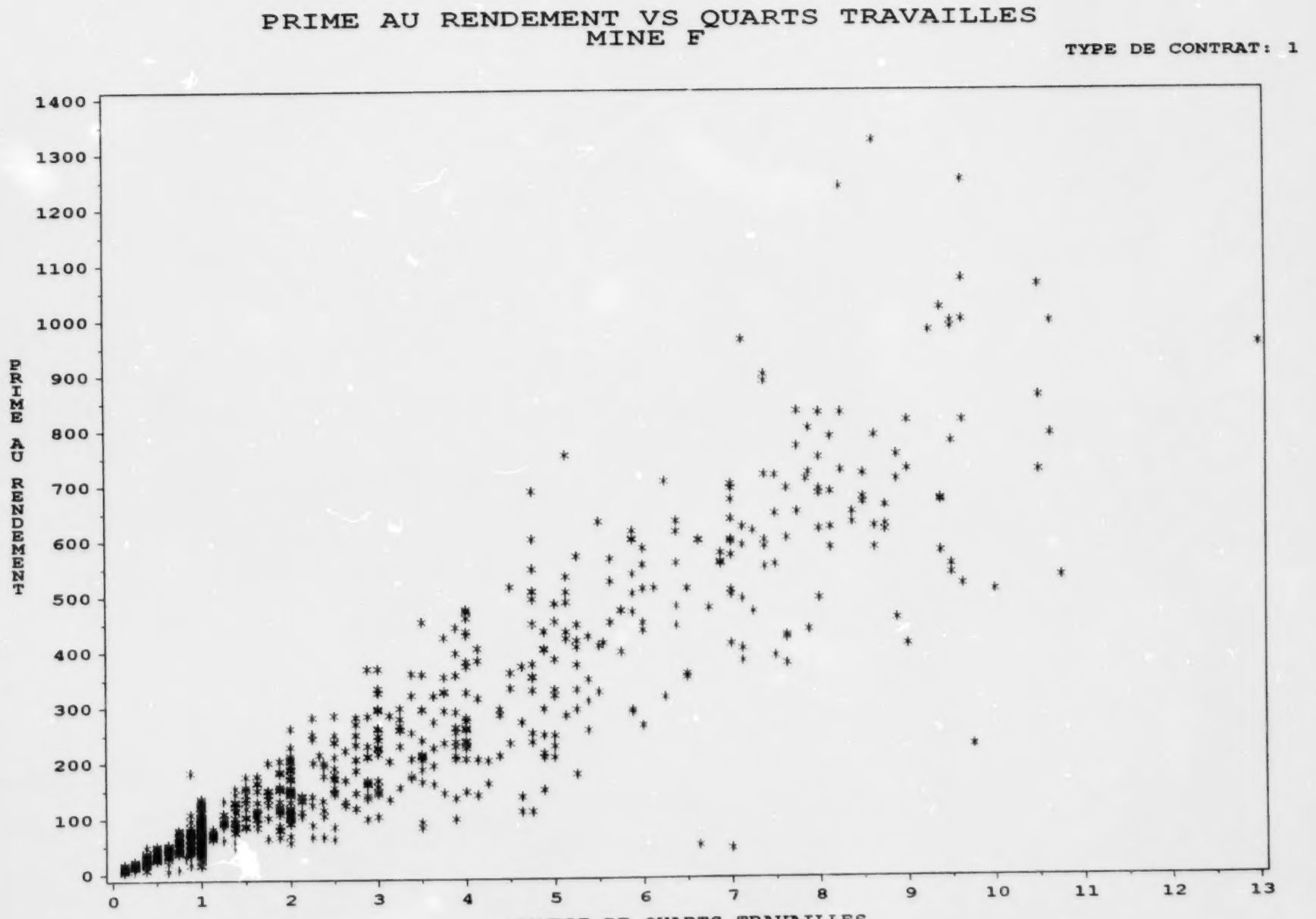


Figure F.7

FICHIER DES TRAVAILLEURS INDIVIDUELS

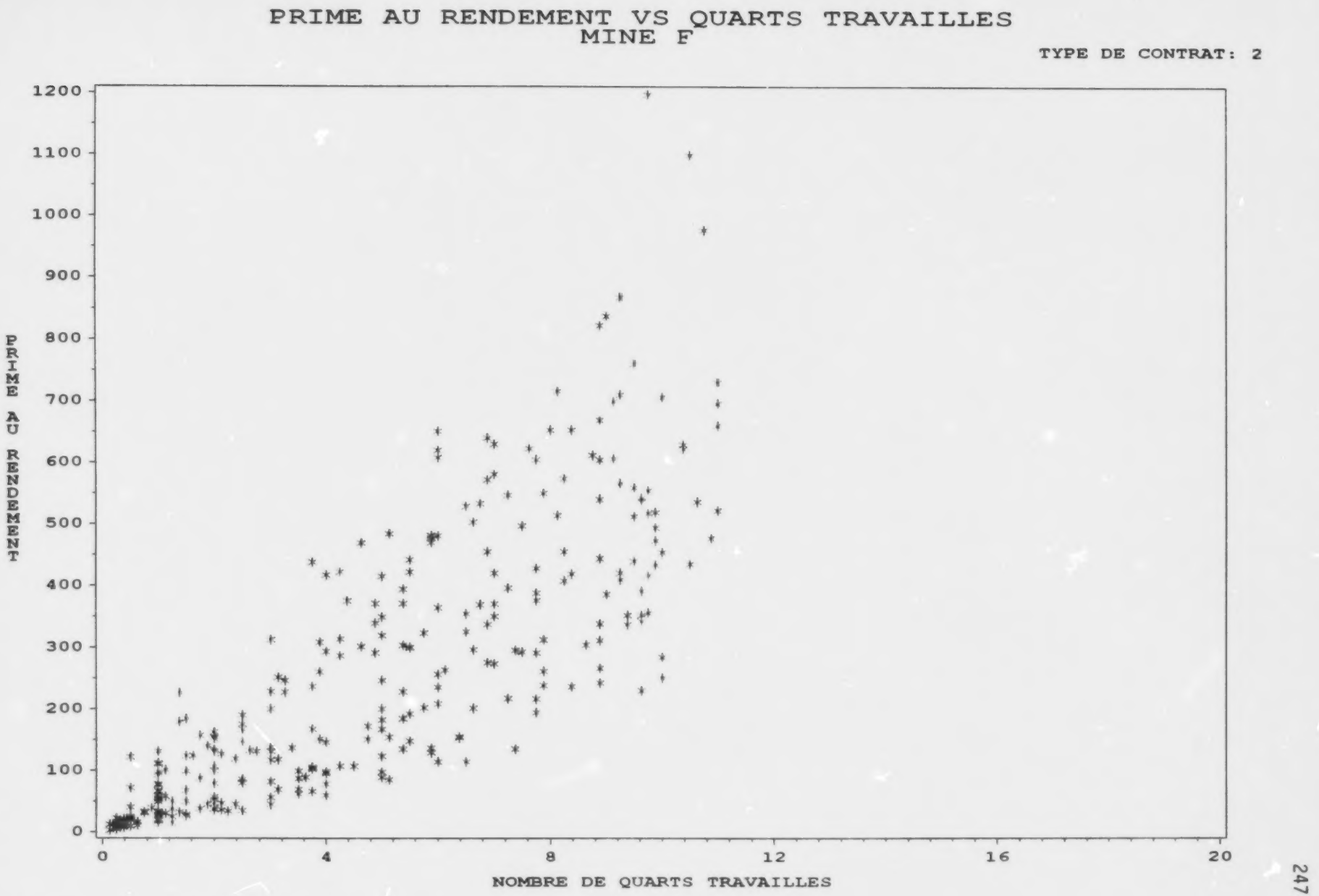

PRIME AU RENDEMENT VS QUARTS TRAVAILLES
MINE F
TYPE DE CONTRAT: 2
PRIME AU RENDEMENT
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
0
4
8
12
16
20
NOMBRE DE QUARTS TRAVAILLES
FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.8

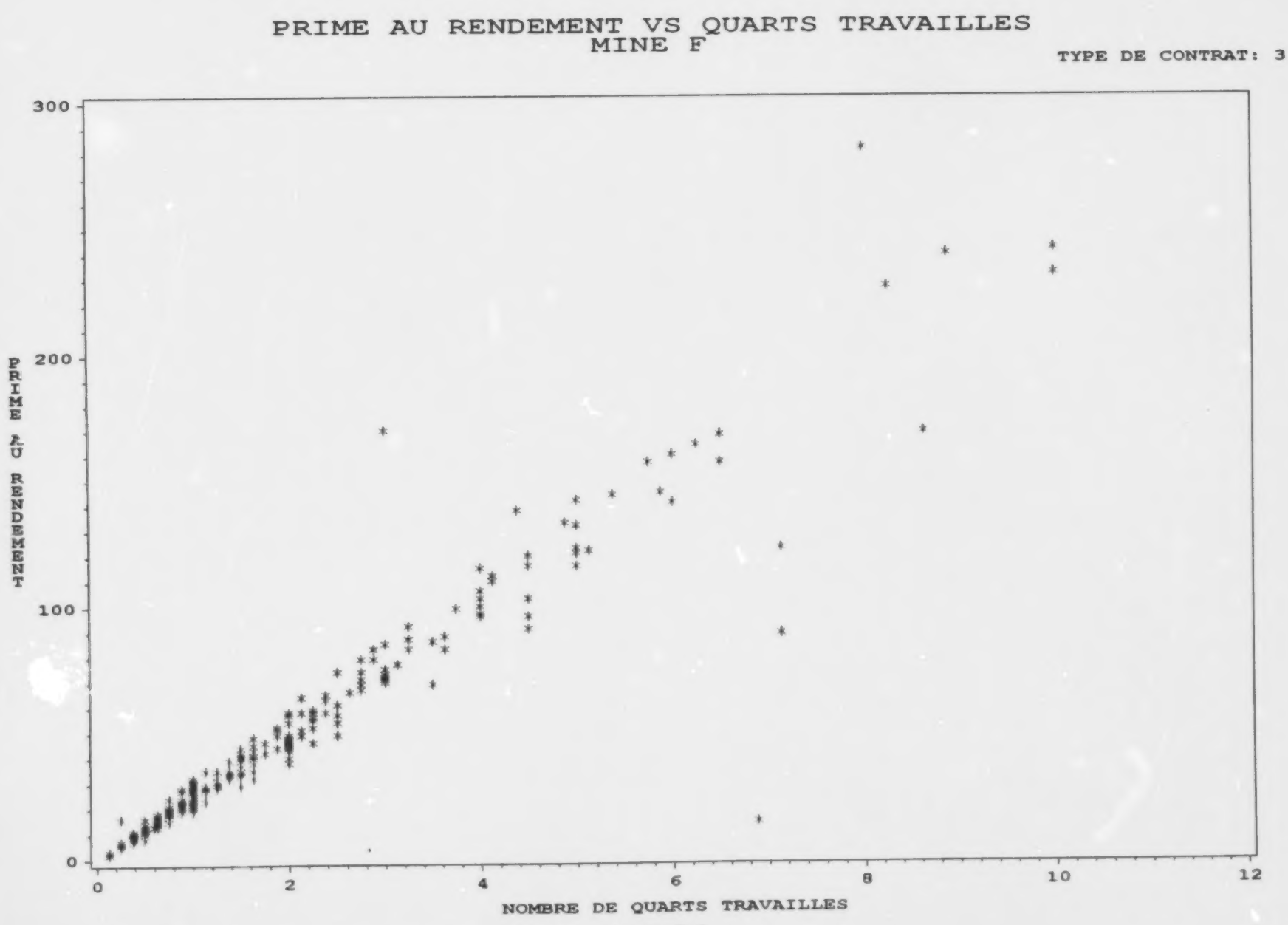


Figure F.9

FICHIER DES TRAVAILLEURS INDIVIDUELS

PRIME AU RENDEMENT VS QUARTS TRAVAILLES
MINE F

TYPE DE CONTRAT: 4

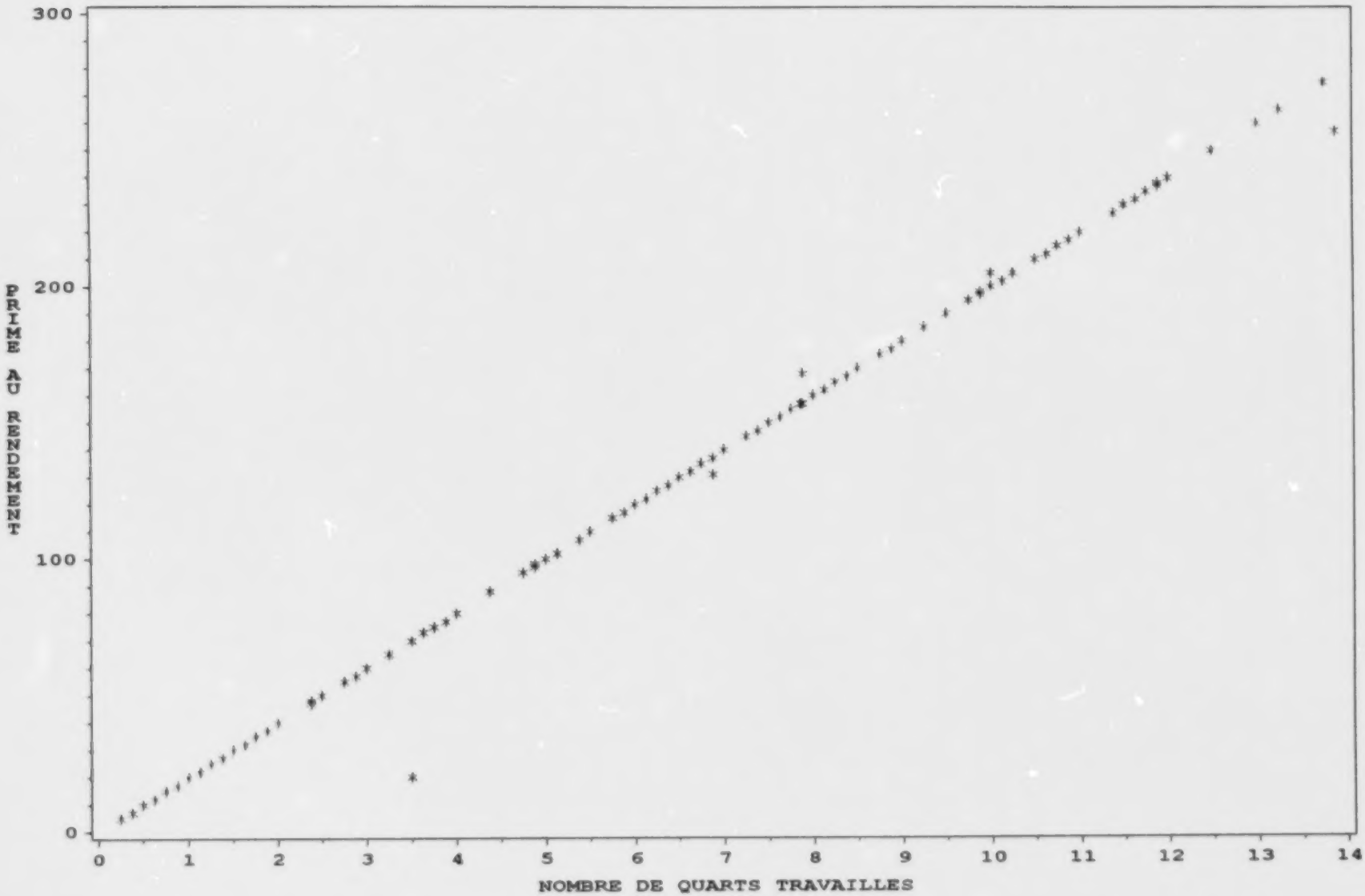


Figure F.10

FICHIER DES TRAVAILLEURS INDIVIDUELS

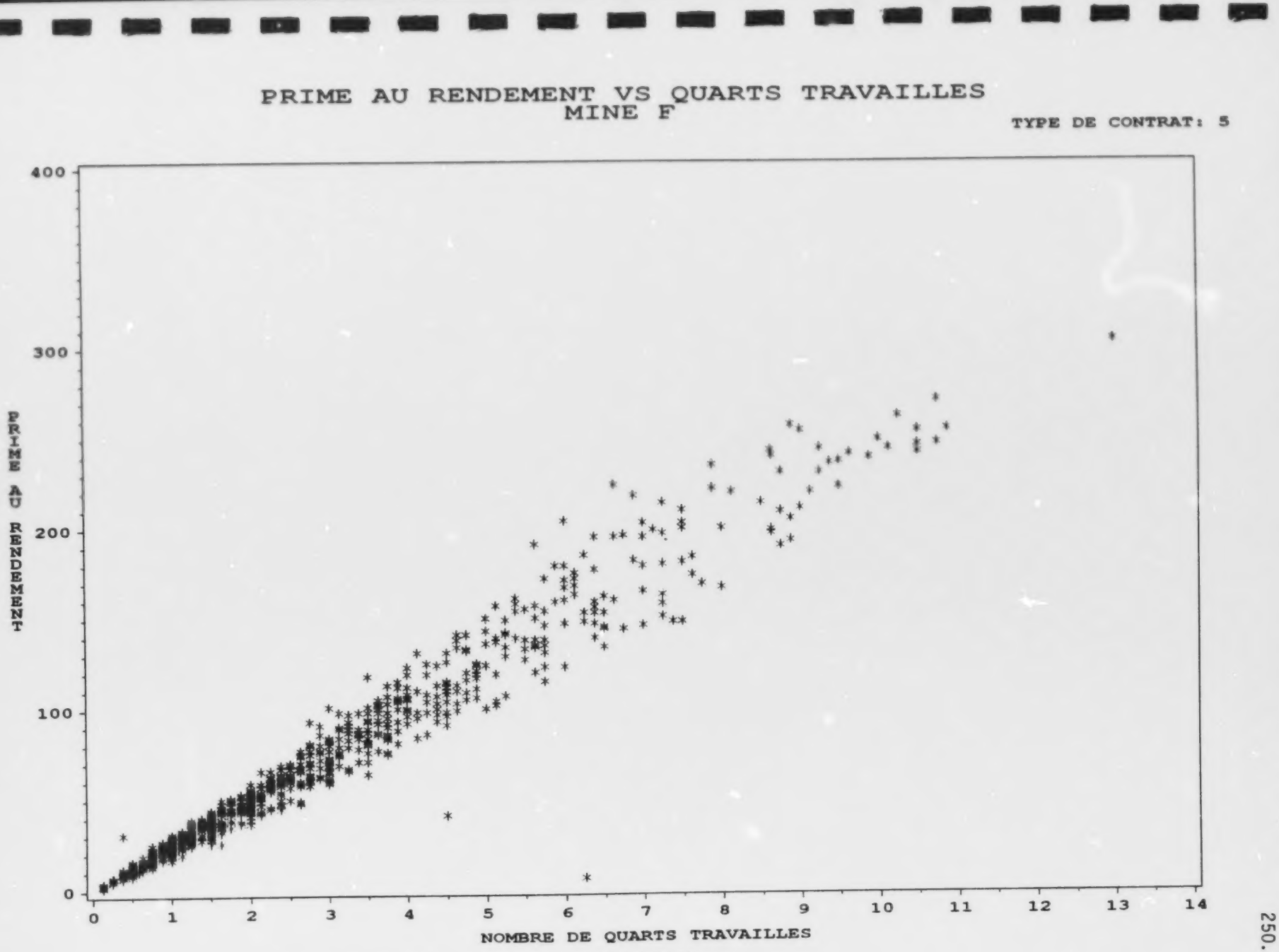
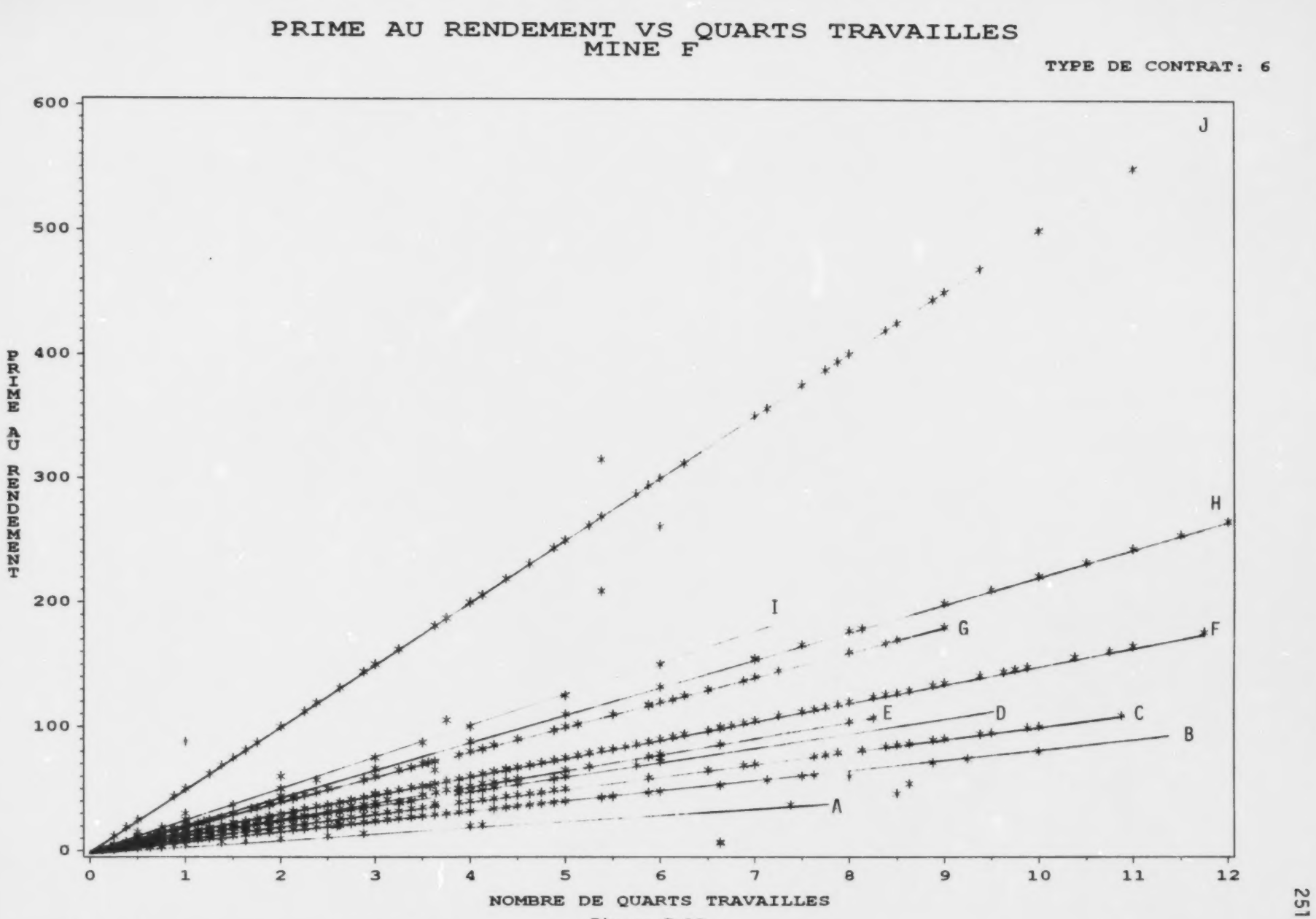

PRIME AU RENDEMENT VS QUARTS TRAVAILLES
MINE F
TYPE DE CONTRAT: 5
PRIME AU RENDEMENT
400
300
200
100
0
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
NOMBRE DE QUARTS TRAVAILLES
FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.11



FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.12

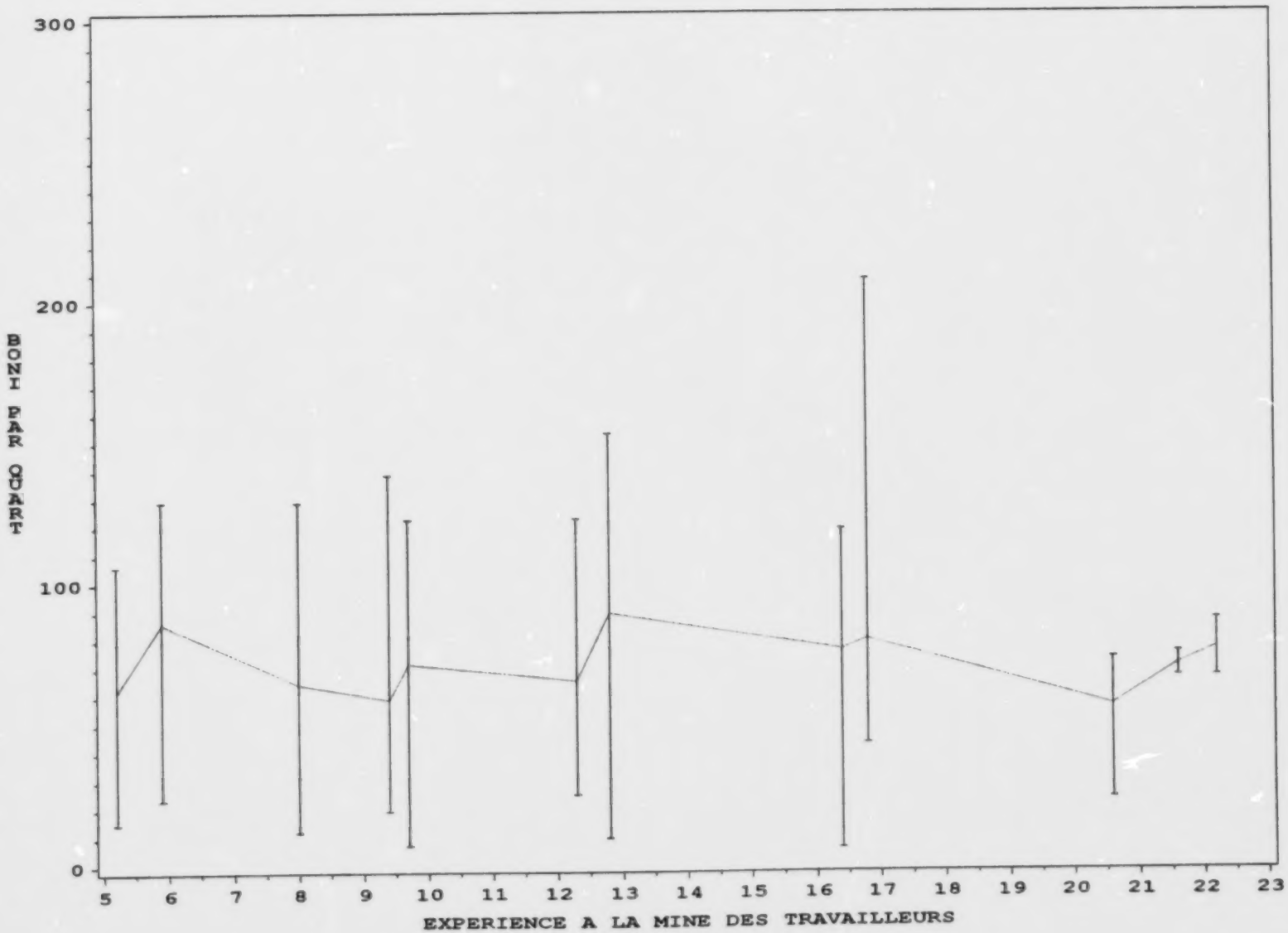


Figure F.13

FICHIER DES TRAVAILLEURS INDIVIDUELS

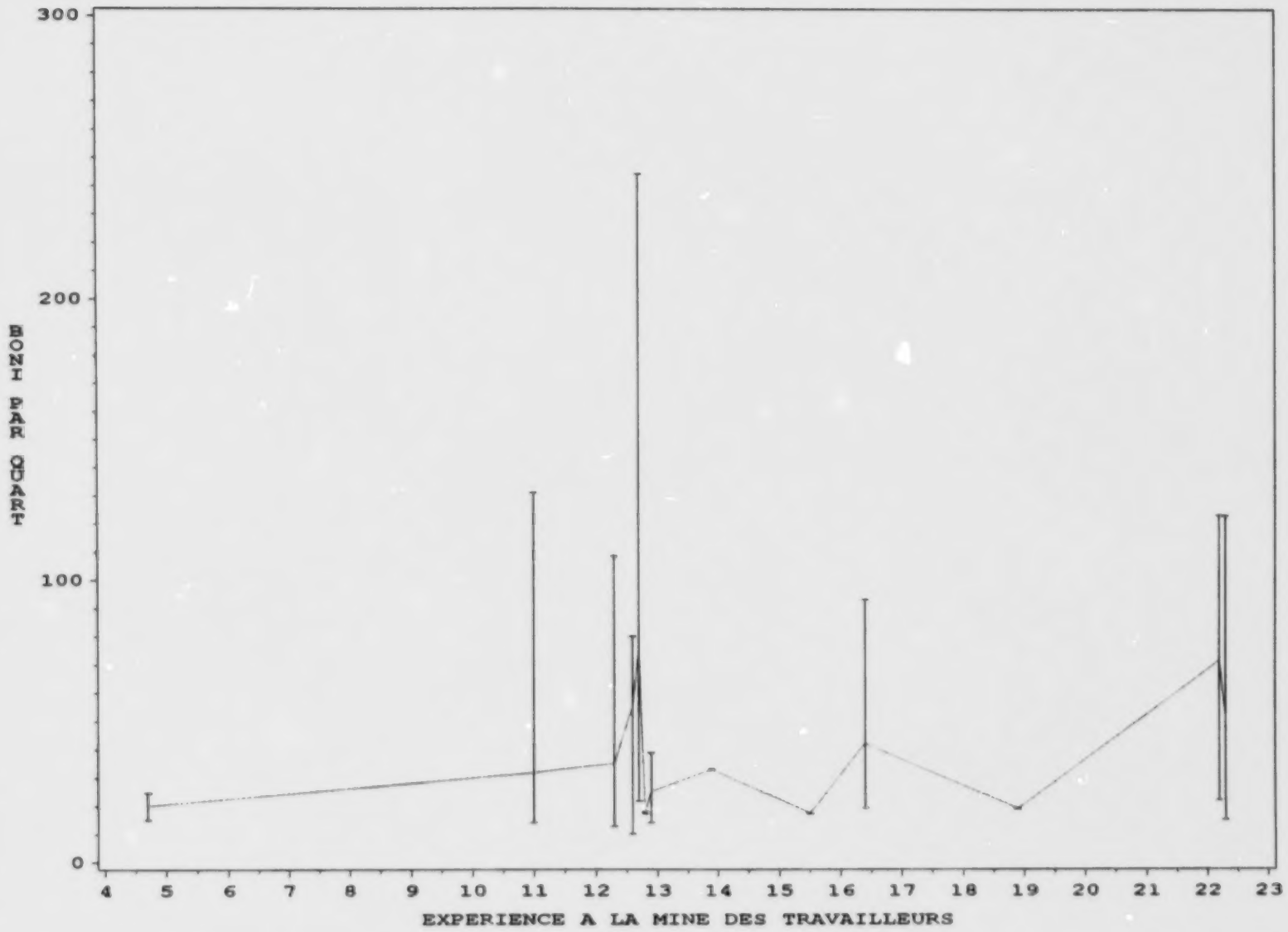


Figure F.14

FICHIER DES TRAVAILLEURS INDIVIDUELS

BONI PAR QUART VS EXPERIENCE DES TRAVAILLEURS
MINE F

TYPE DE CONTRAT: 3

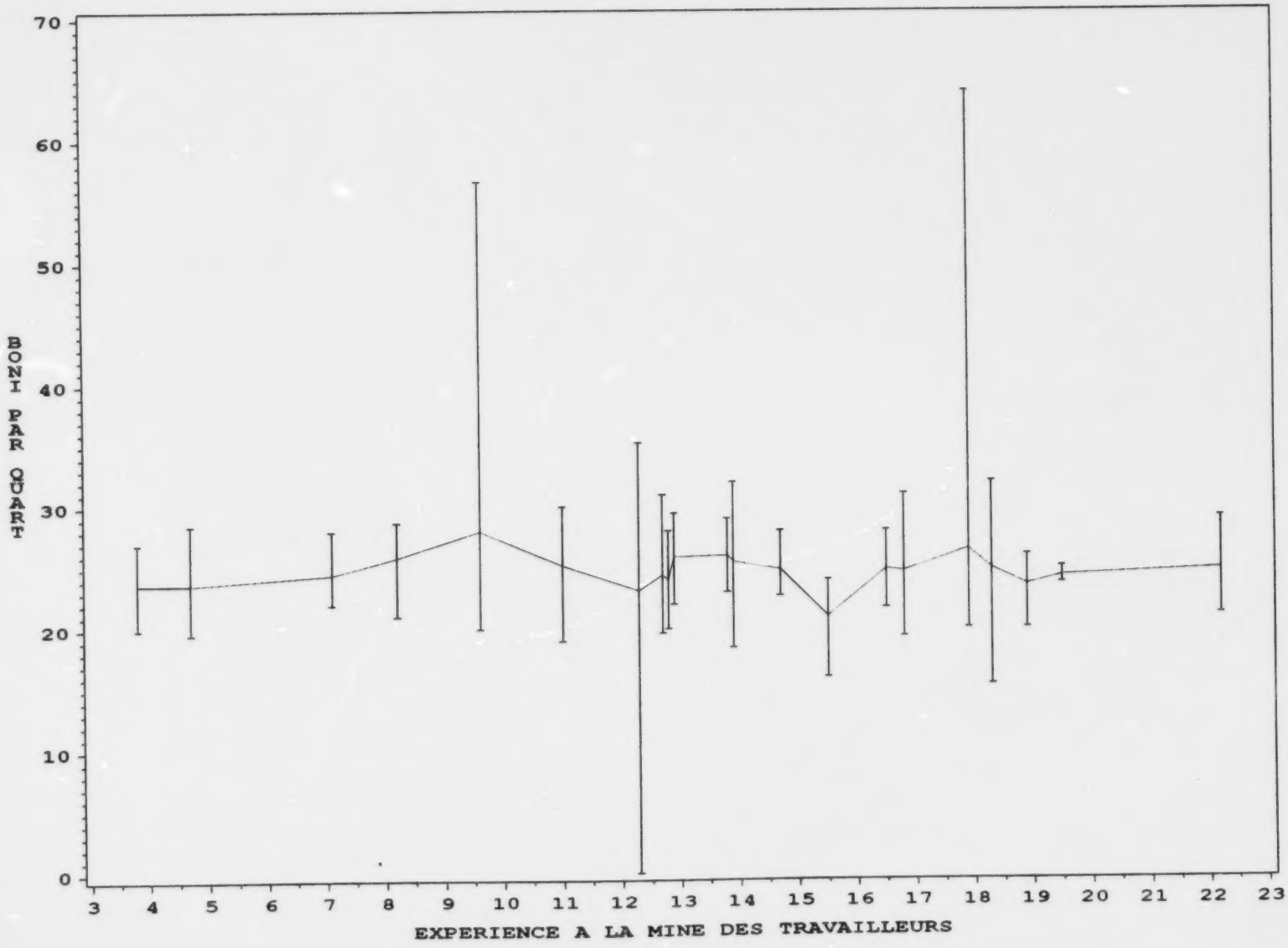
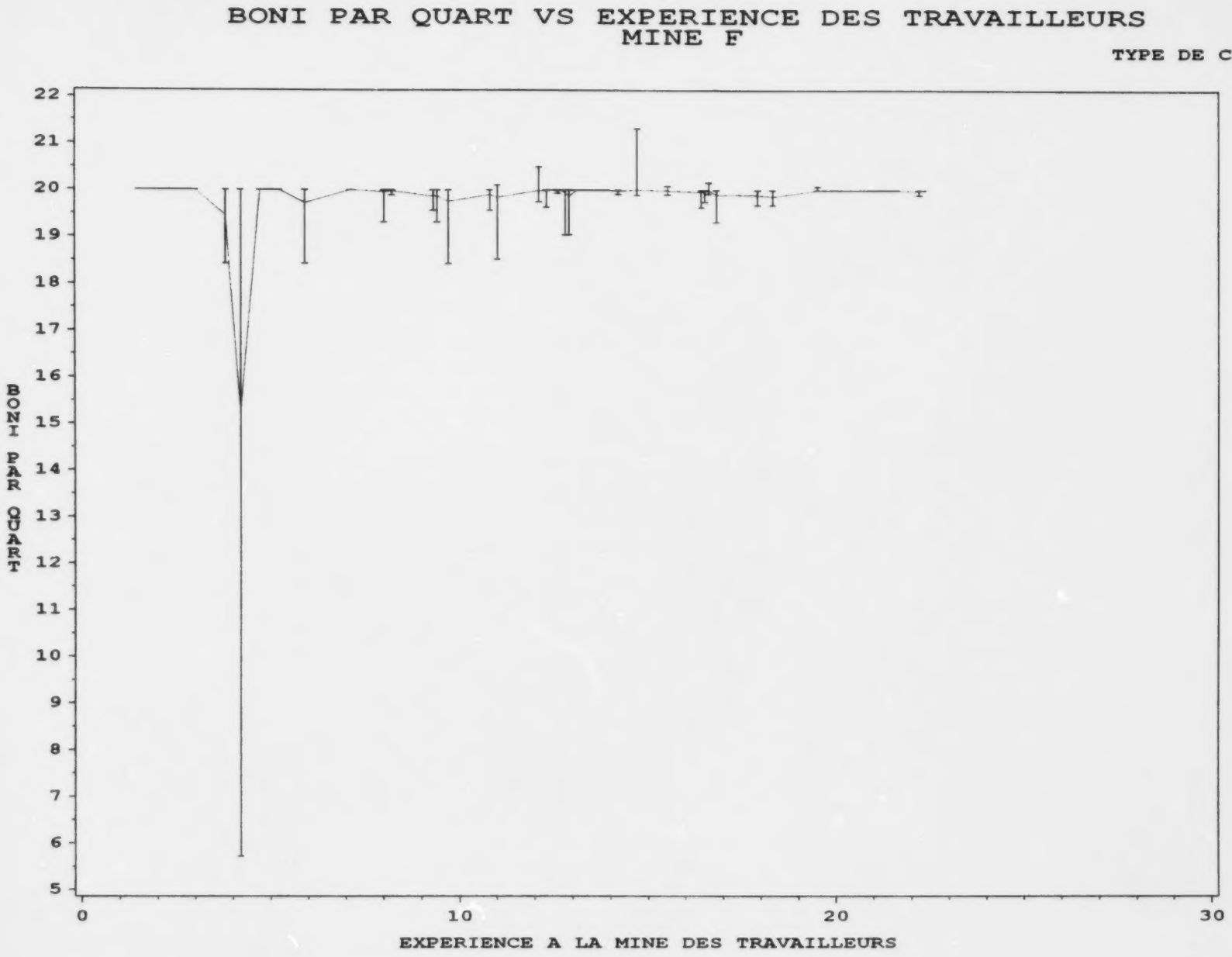


Figure F.15

FICHIER DES TRAVAILLEURS INDIVIDUELS

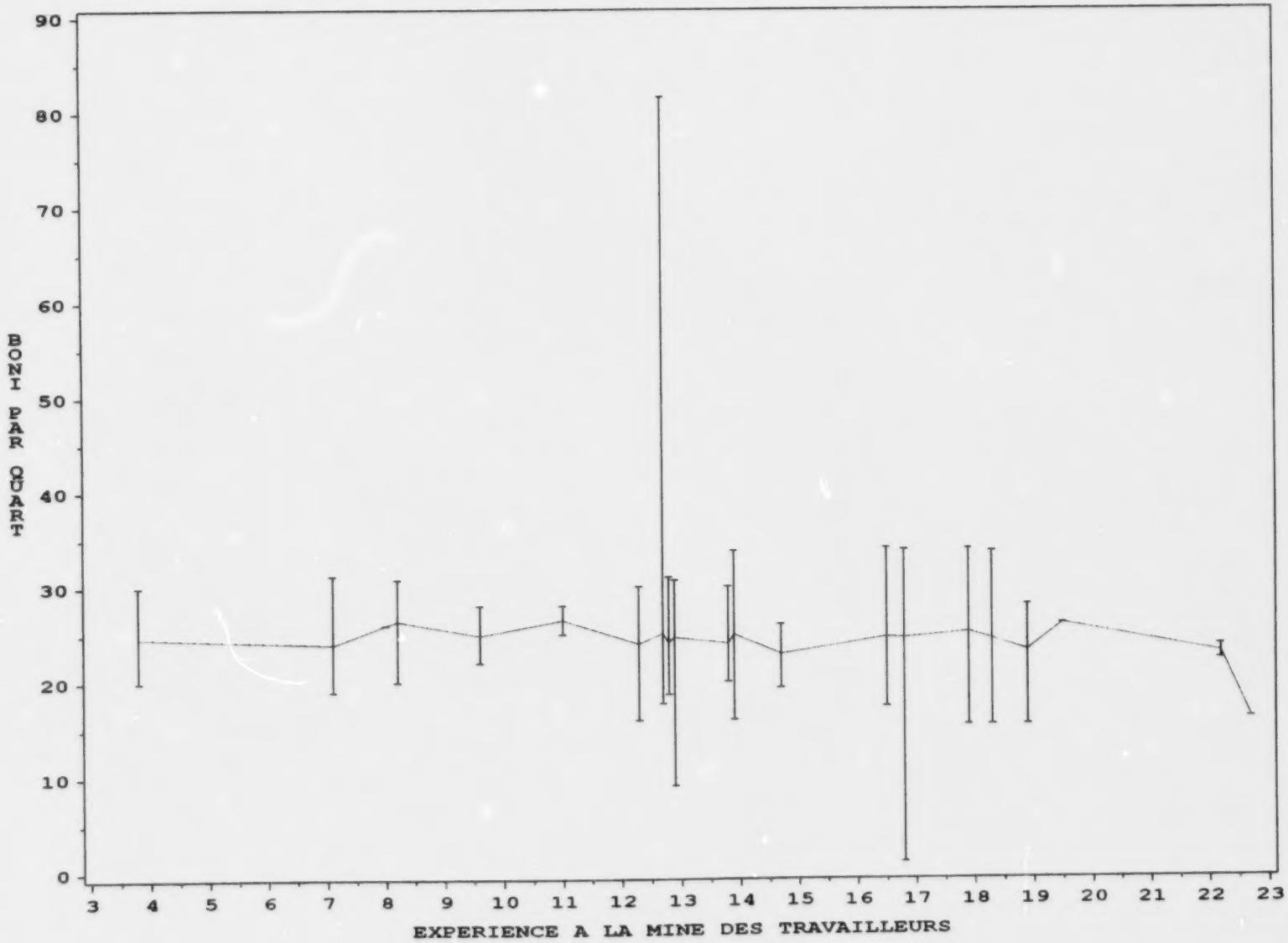


FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.16

BONI PAR QUART VS EXPERIENCE DES TRAVAILLEURS
MINE F

TYPE DE CONTRAT: 5



FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.17

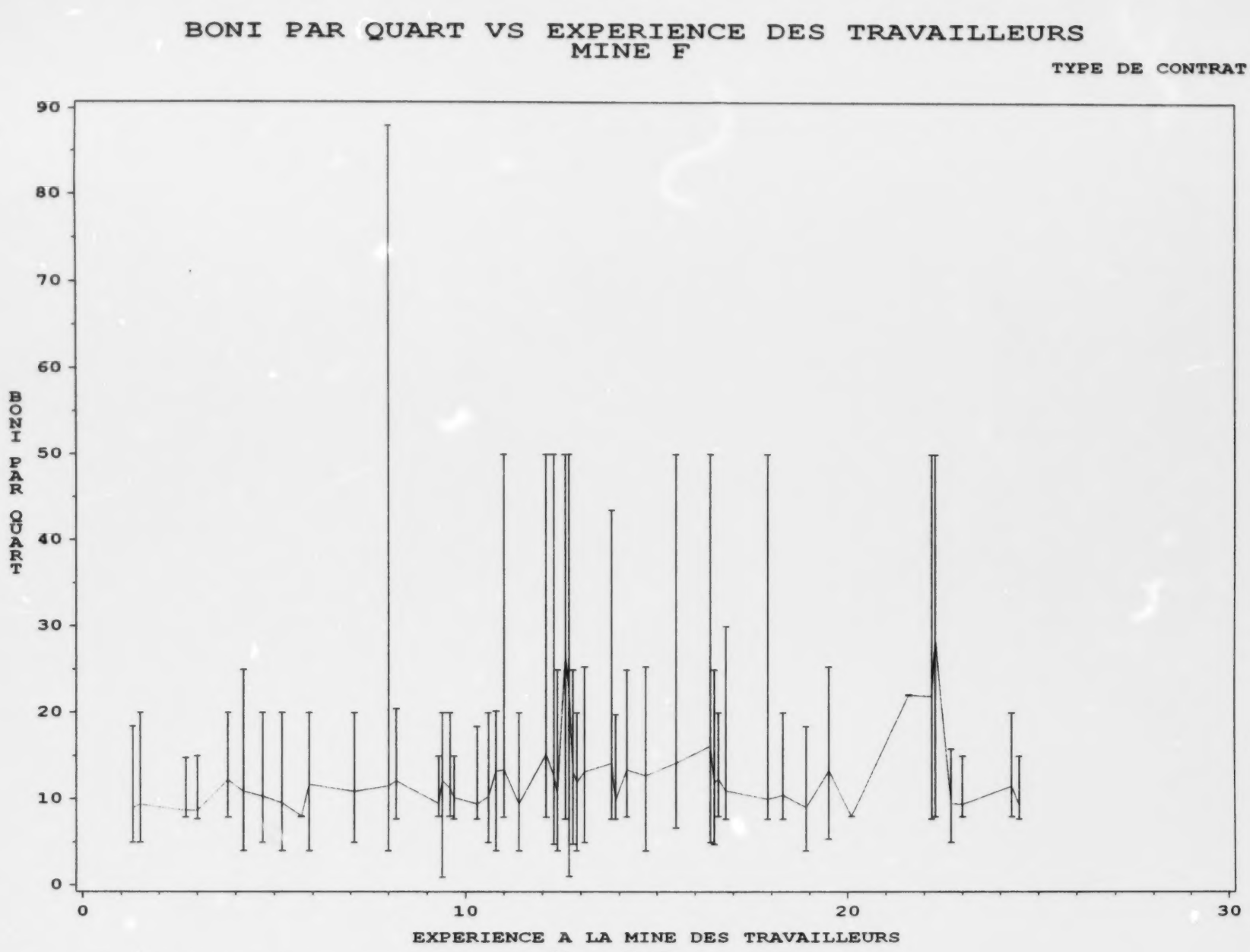


Figure F.18

FICHIER DES TRAVAILLEURS INDIVIDUELS

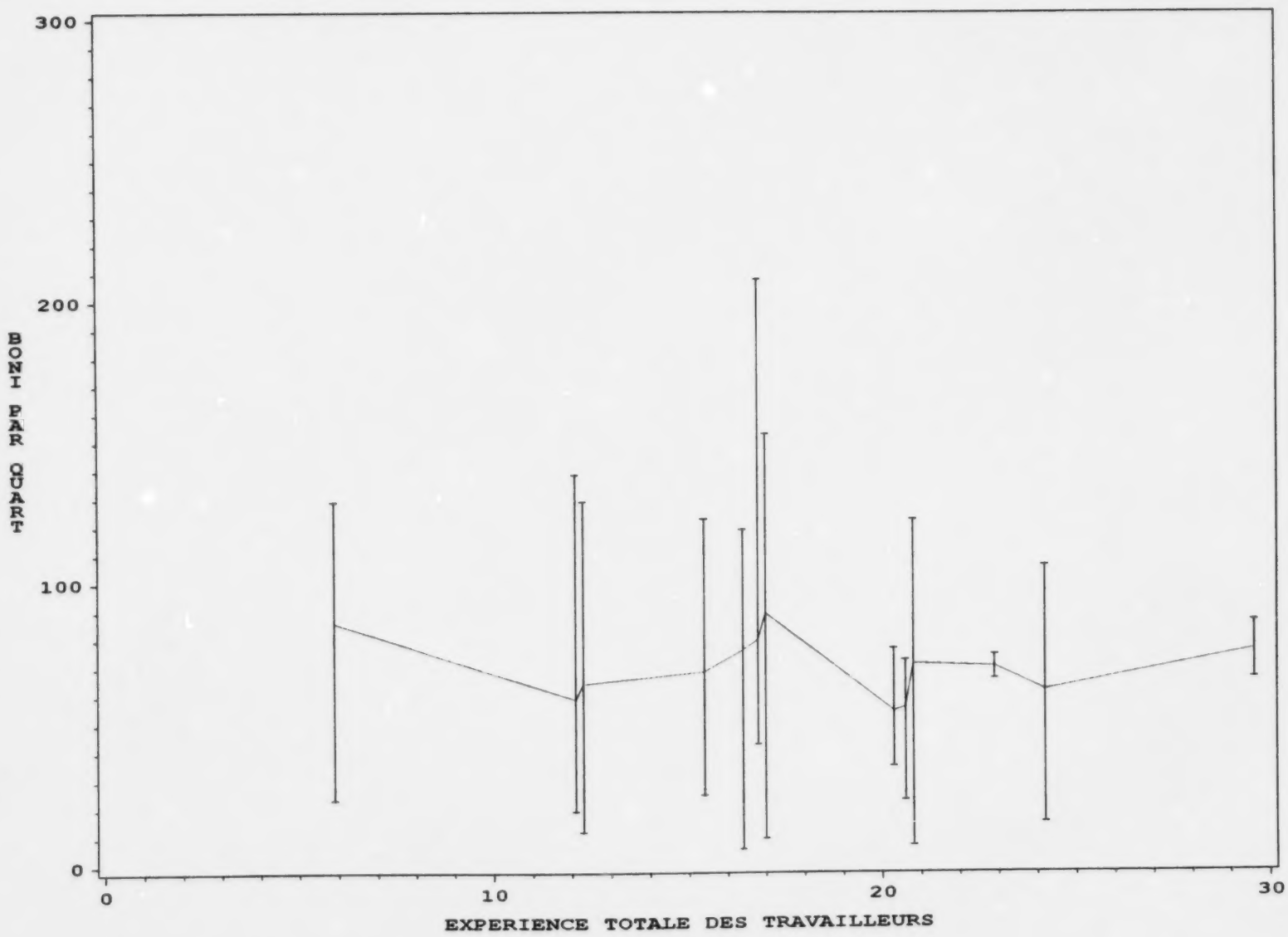
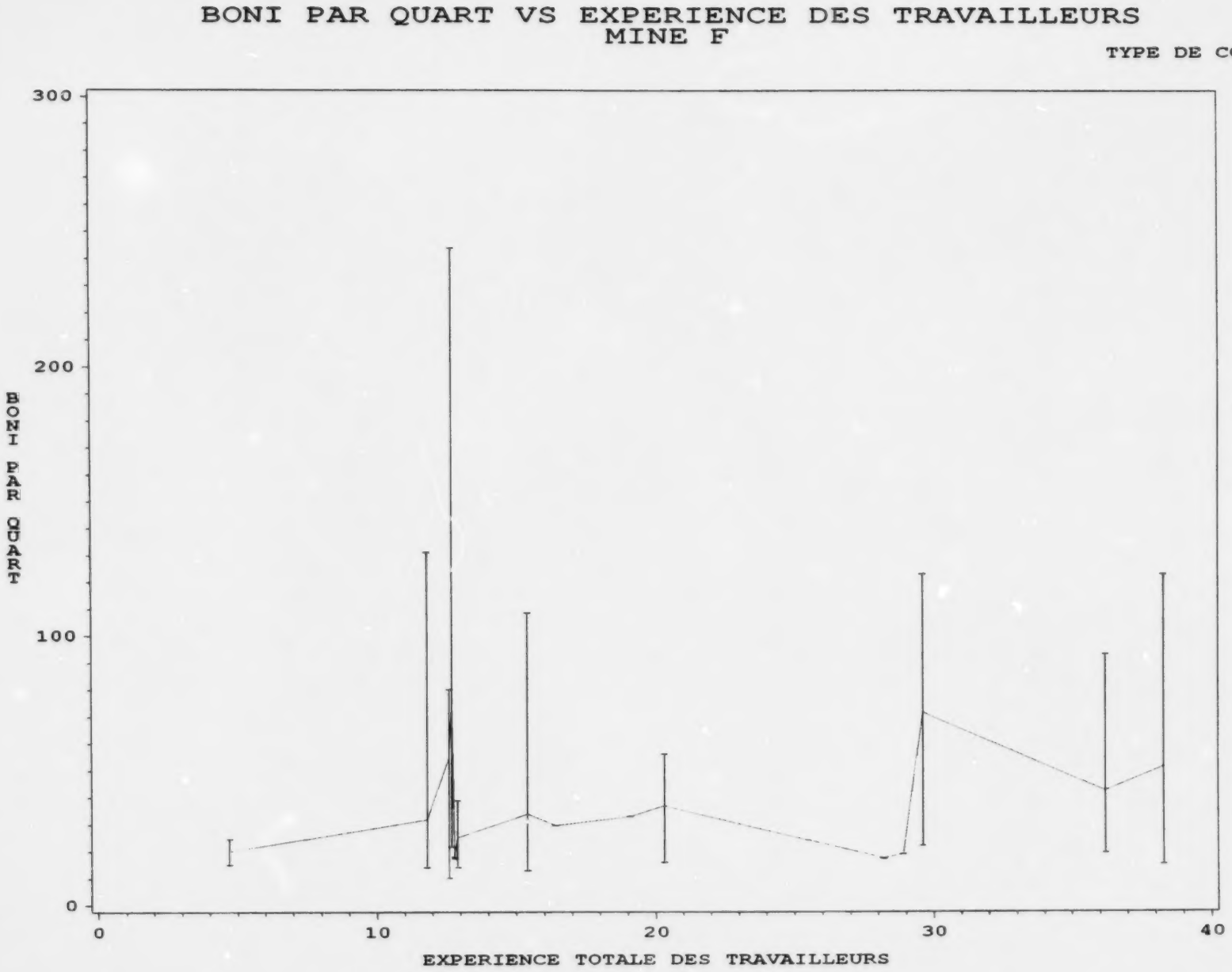


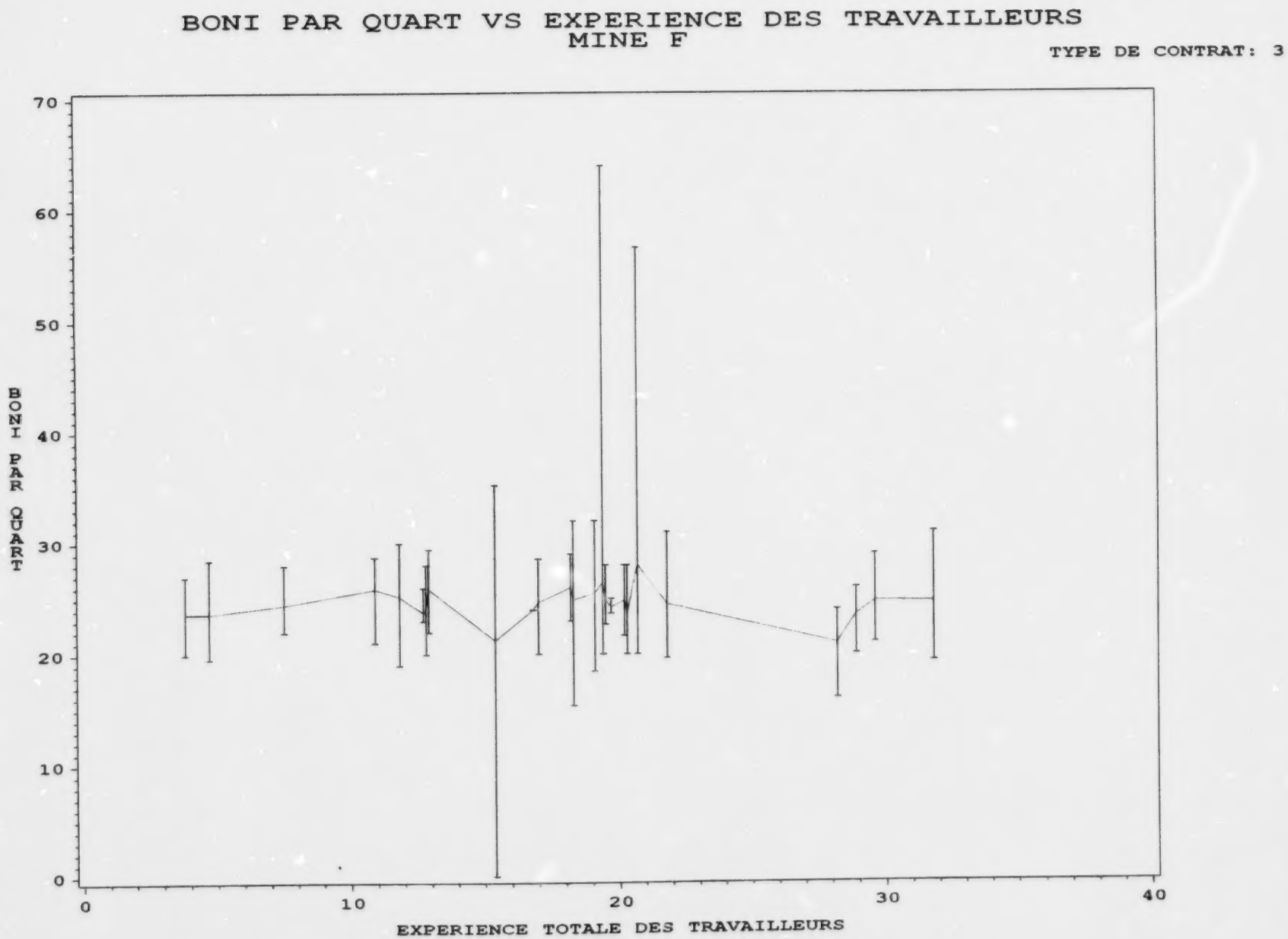
Figure F.19

FICHIER DES TRAVAILLEURS INDIVIDUELS



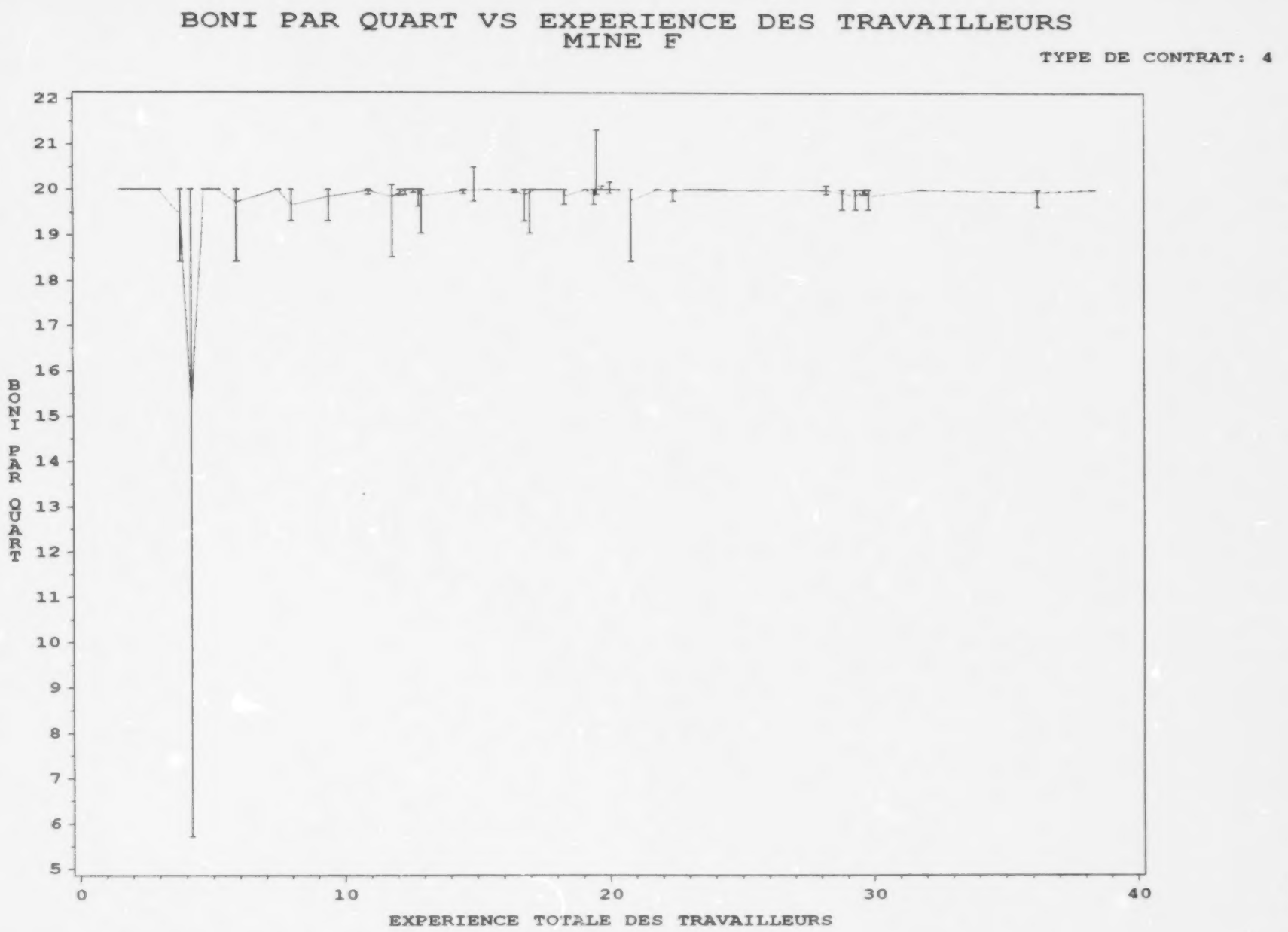
FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.20



FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.21



FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.22

BONI PAR QUART VS EXPERIENCE DES TRAVAILLEURS
MINE F

TYPE DE CONTRAT: 5

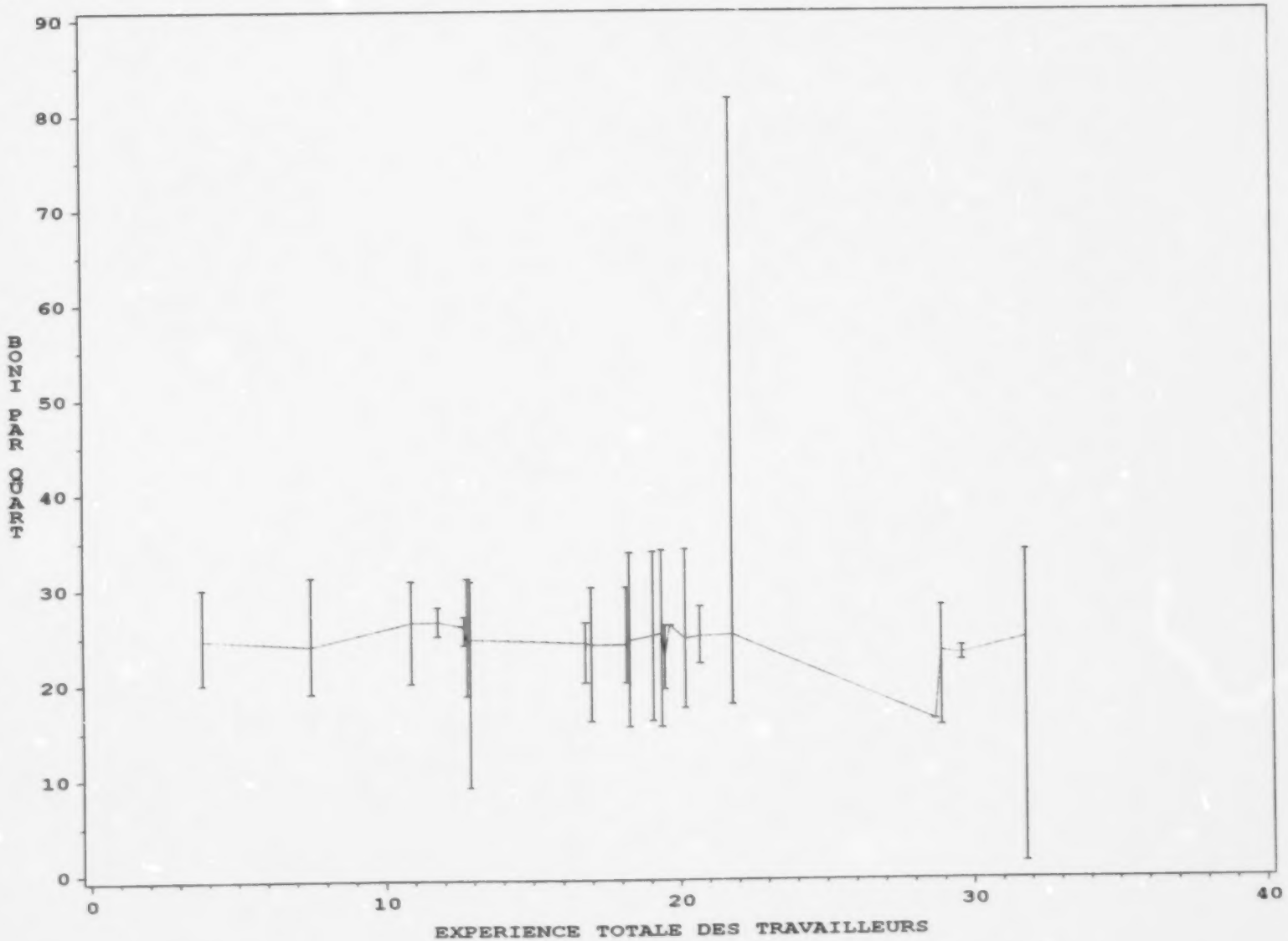


Figure F.23

FICHIER DES TRAVAILLEURS INDIVIDUELS

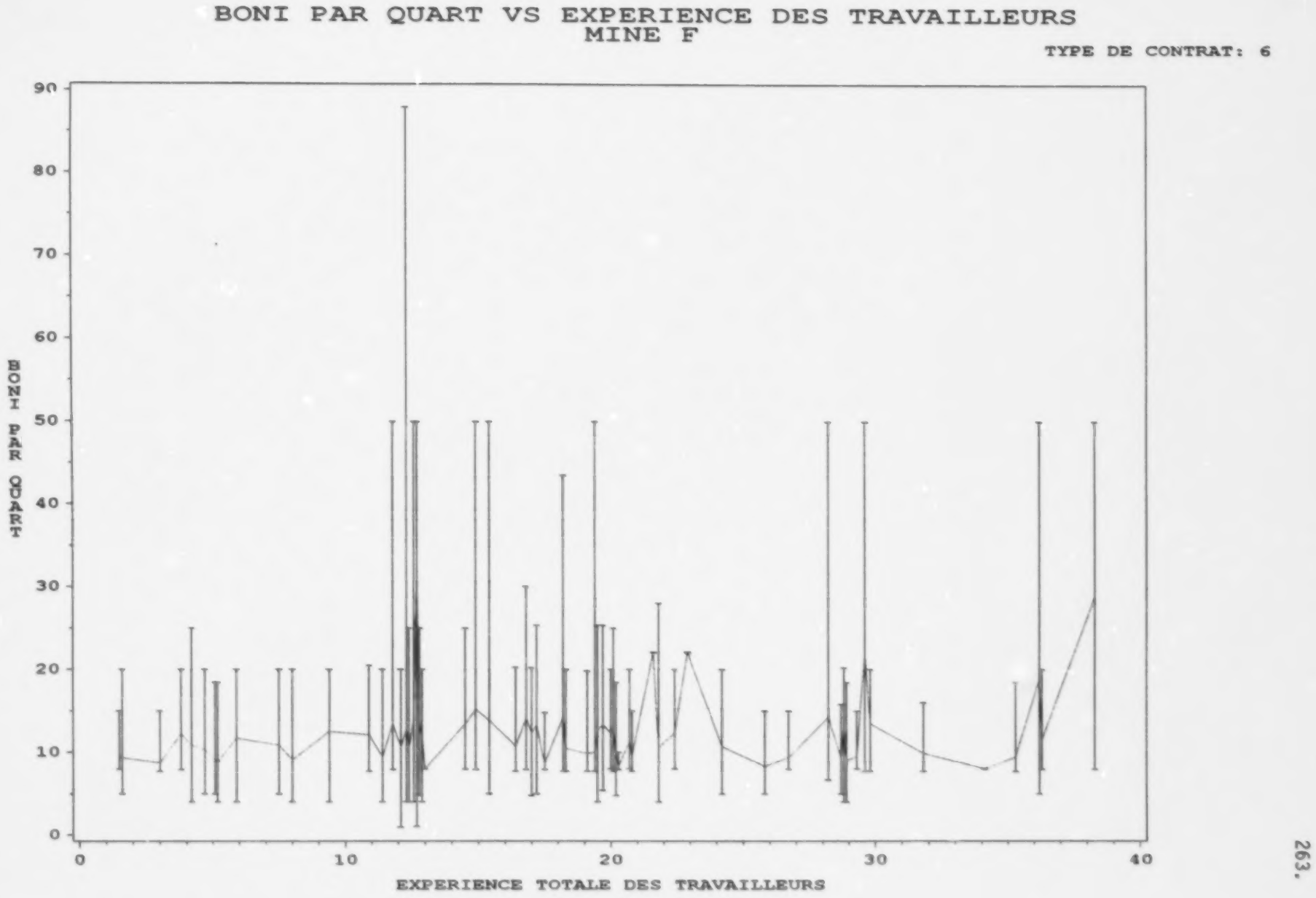

BONI PAR QUART VS EXPERIENCE DES TRAVAILLEURS
MINE F
TYPE DE CONTRAT: 6
BONI PAR QUART
0
10
20
30
40
50
60
70
80
90
0
10
20
30
40
EXPERIENCE TOTALE DES TRAVAILLEURS
FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.24

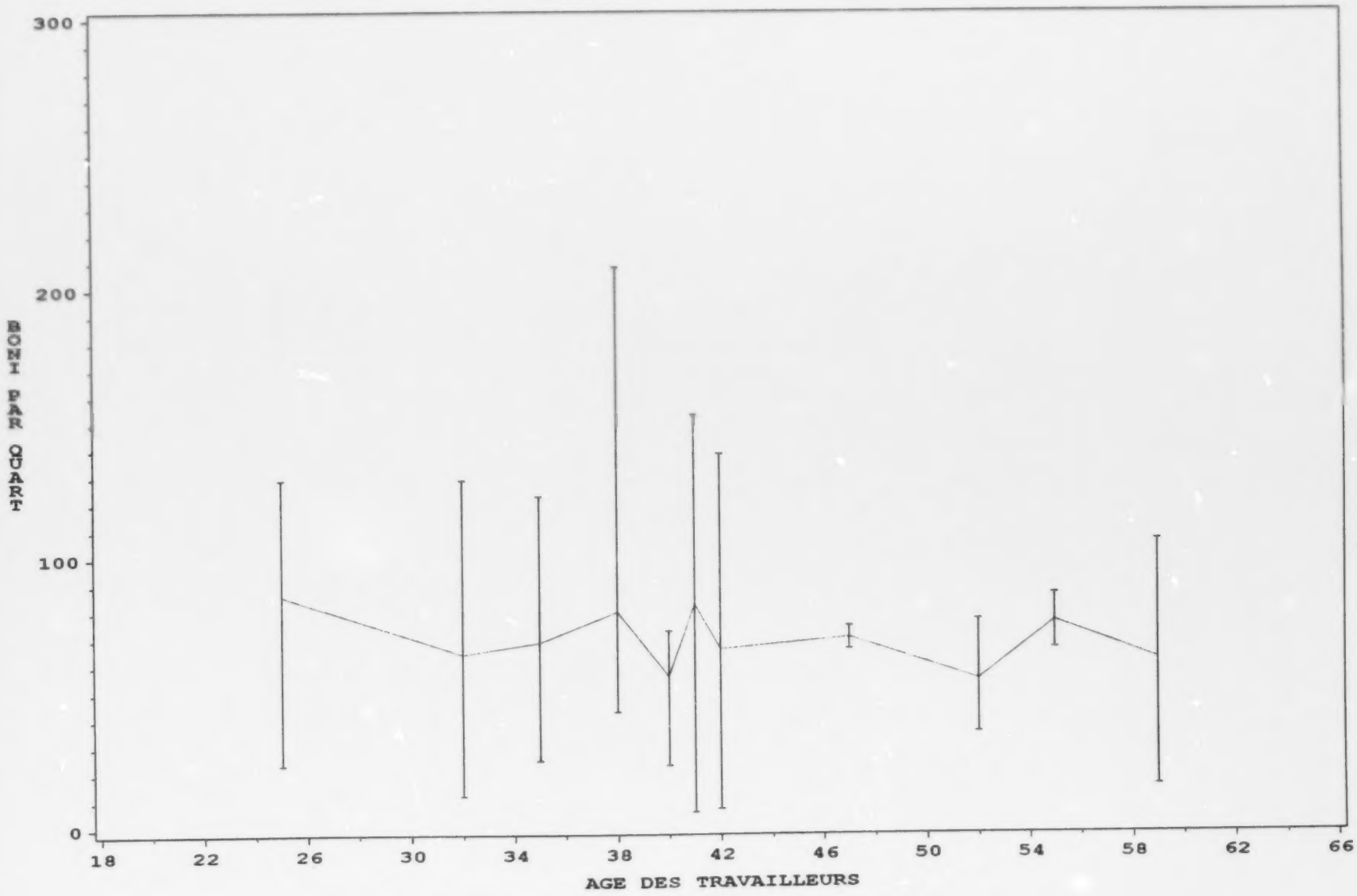


Figure F.25

FICHIER DES TRAVAILLEURS INDIVIDUELS

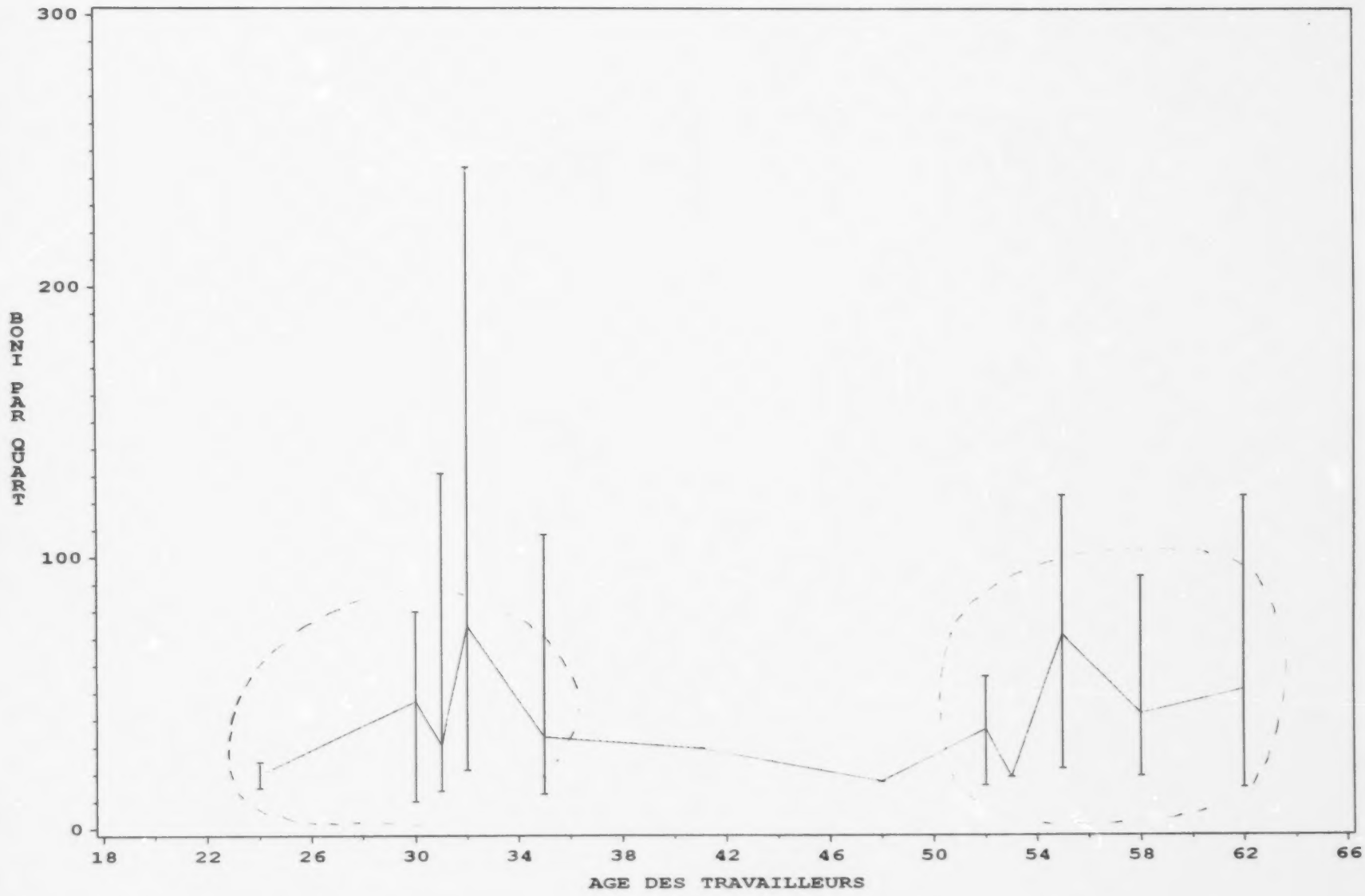

BONI PAR QUART VS AGE DES TRAVAILLEURS
MINE F
TYPE DE CONTRAT: 2
300
200
100
0
BONI PAR QUART
18
22
26
30
34
38
42
46
50
54
58
62
66
AGE DES TRAVAILLEURS
FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.26

BONI PAR QUART VS AGE DES TRAVAILLEURS
MINE F

TYPE DE CONTRAT: 3

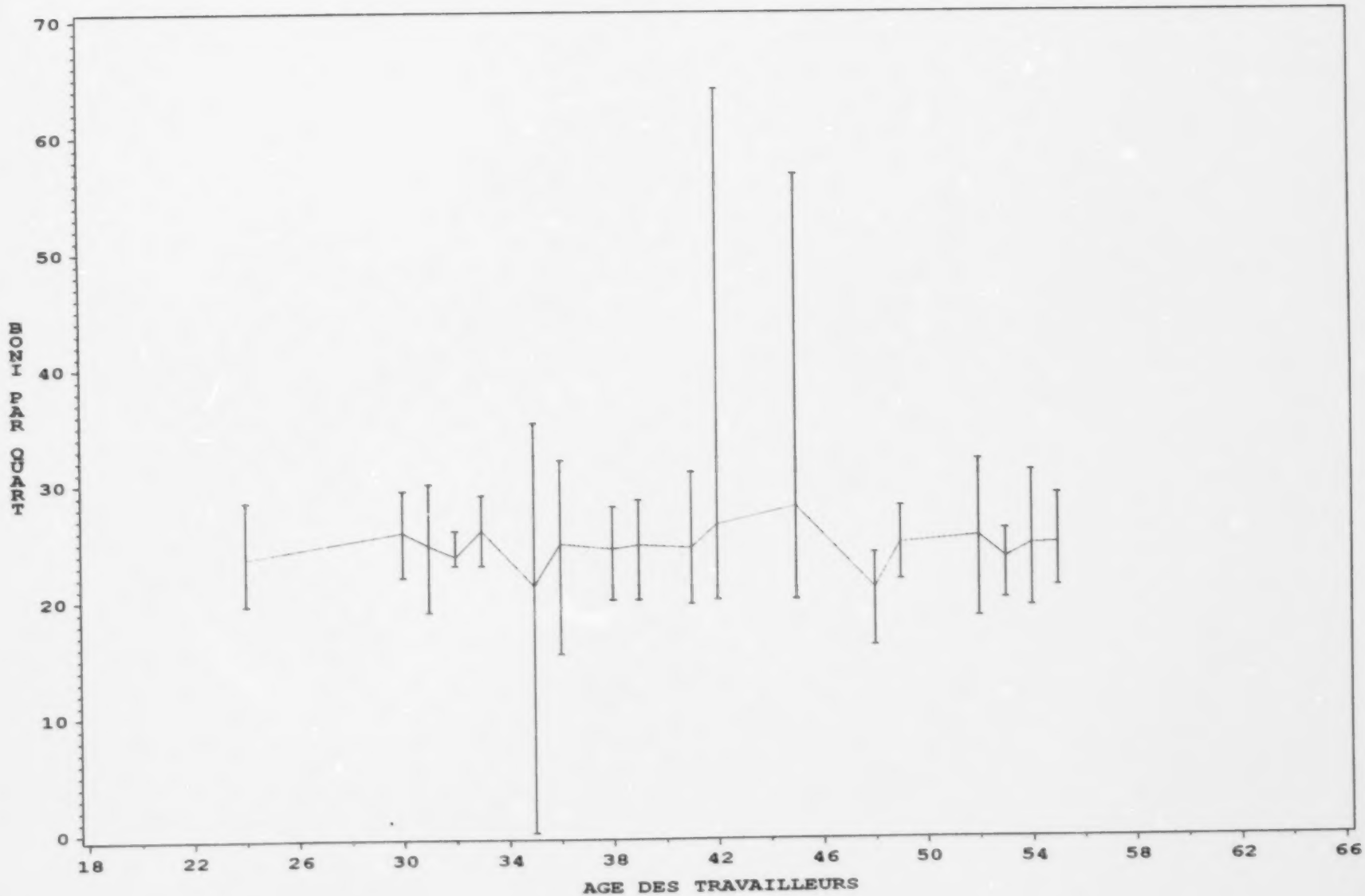
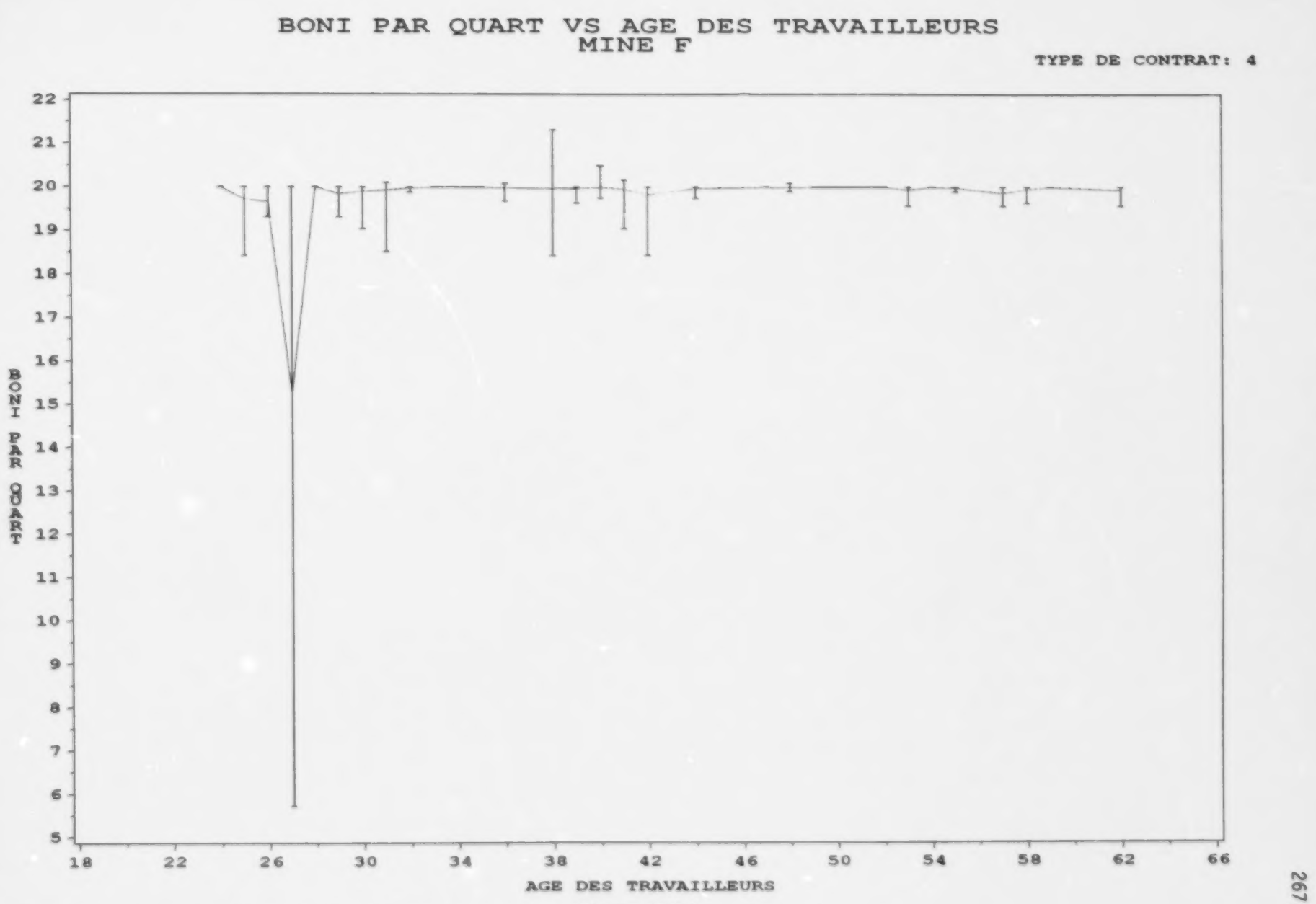


Figure F.27

FICHIER DES TRAVAILLEURS INDIVIDUELS



FICHIER DES TRAVAILLEURS INDIVIDUELS

Figure F.28

BONI PAR QUART VS AGE DES TRAVAILLEURS
MINE F

TYPE DE CONTRAT: 5

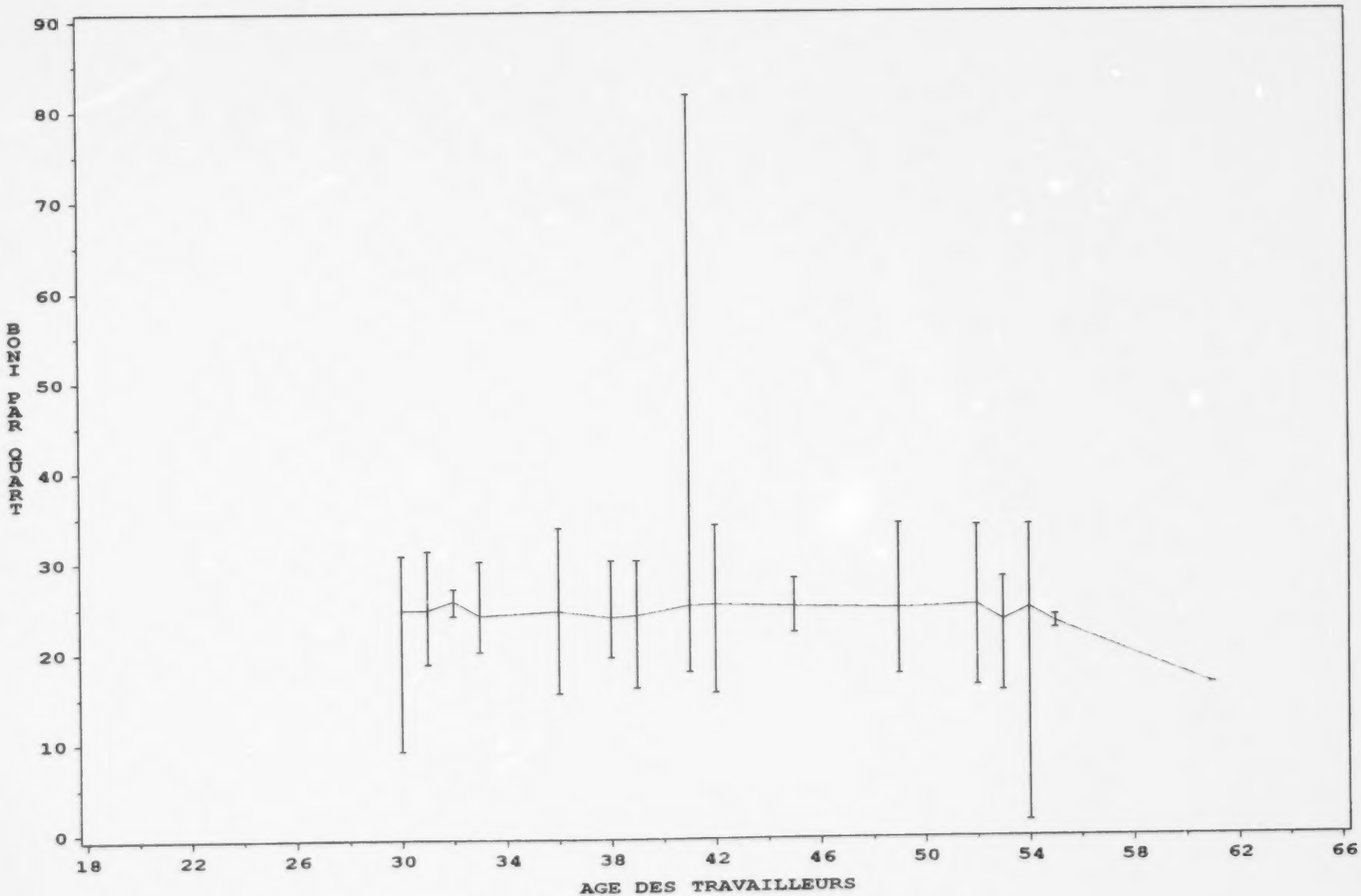


Figure F.29

FICHIER DES TRAVAILLEURS INDIVIDUELS

BONI PAR QUART VS AGE DES TRAVAILLEURS
MINE F

TYPE DE CONTRAT: 6

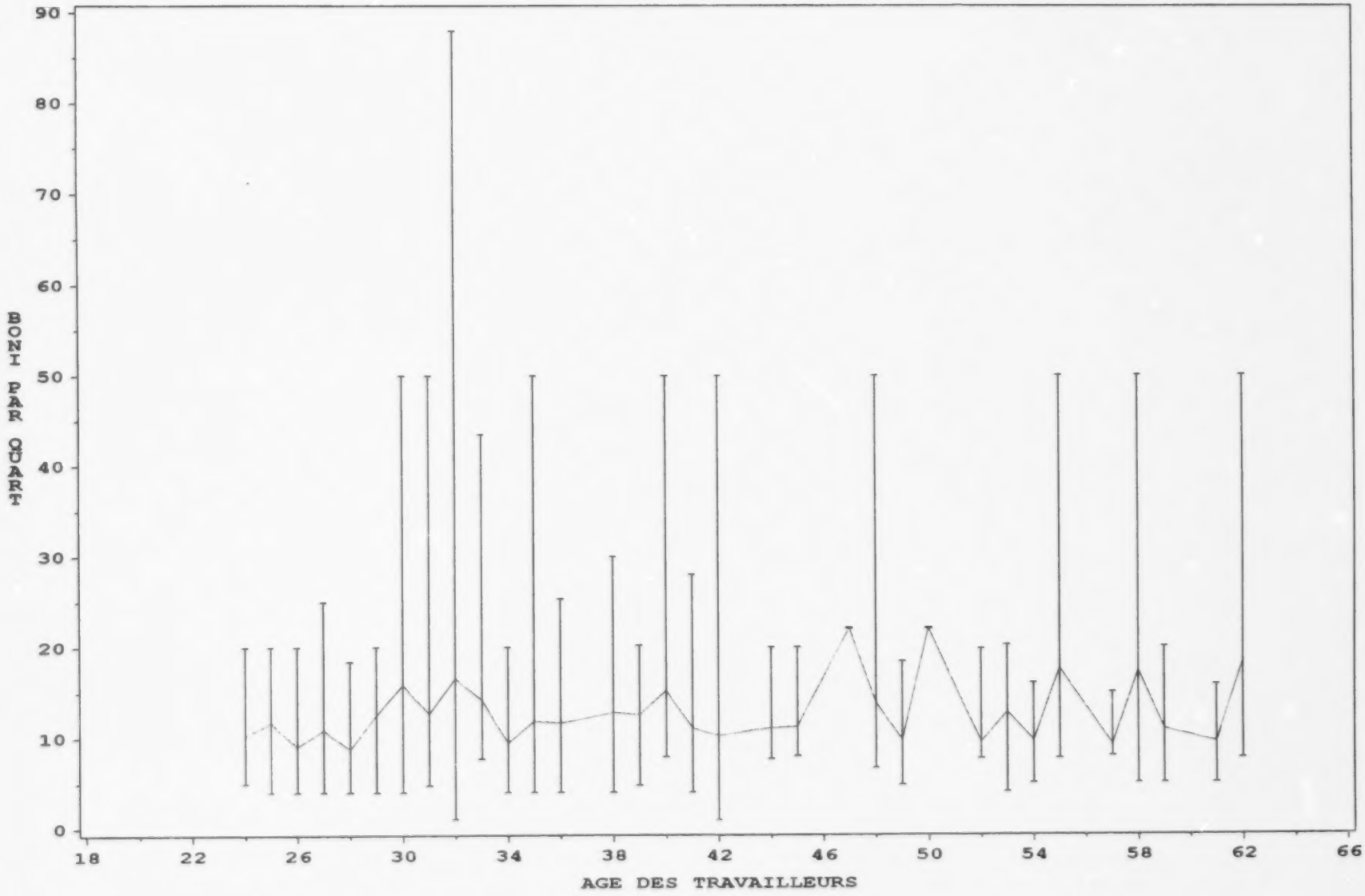


Figure F.30

FICHIER DES TRAVAILLEURS INDIVIDUELS

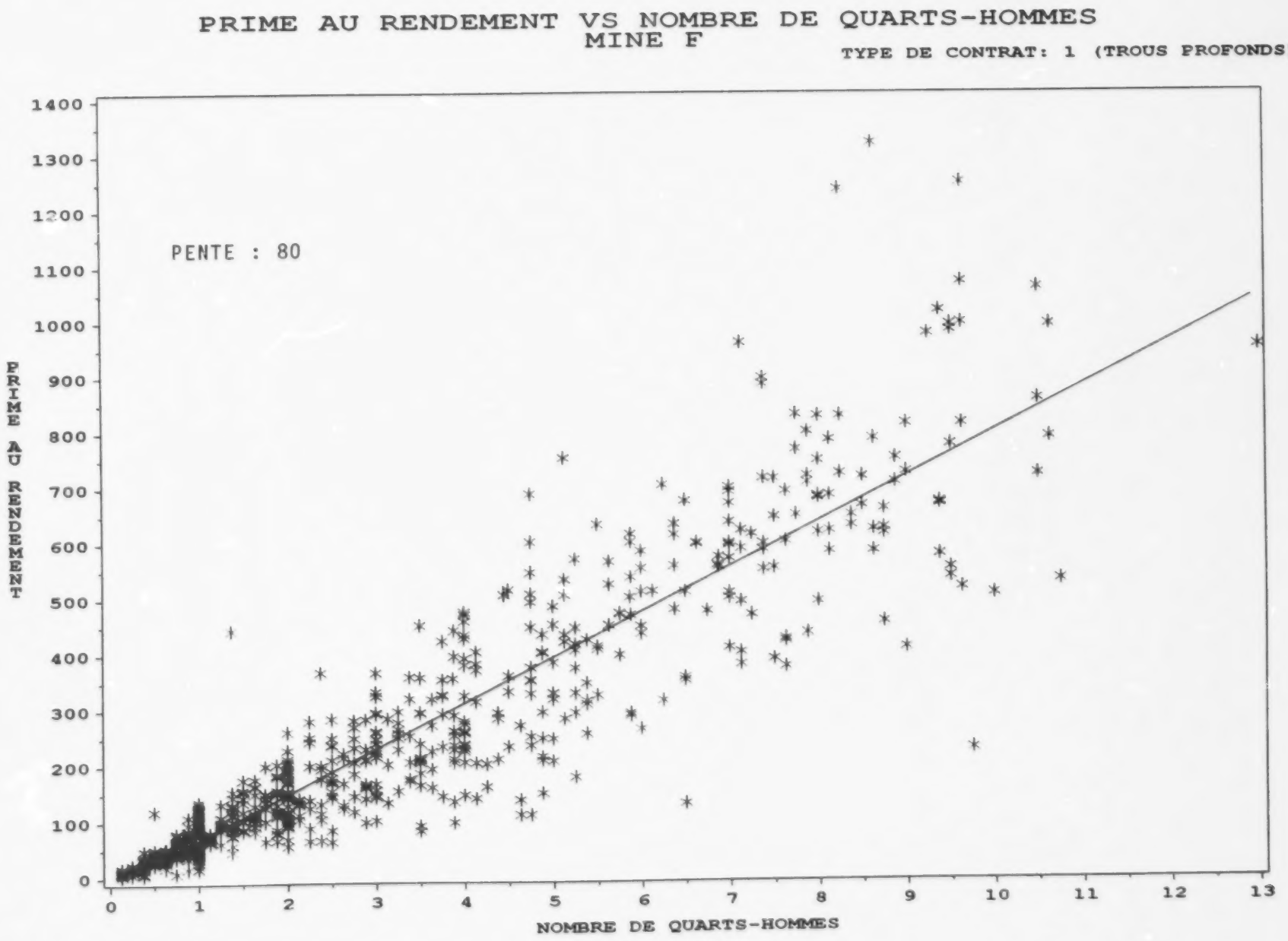
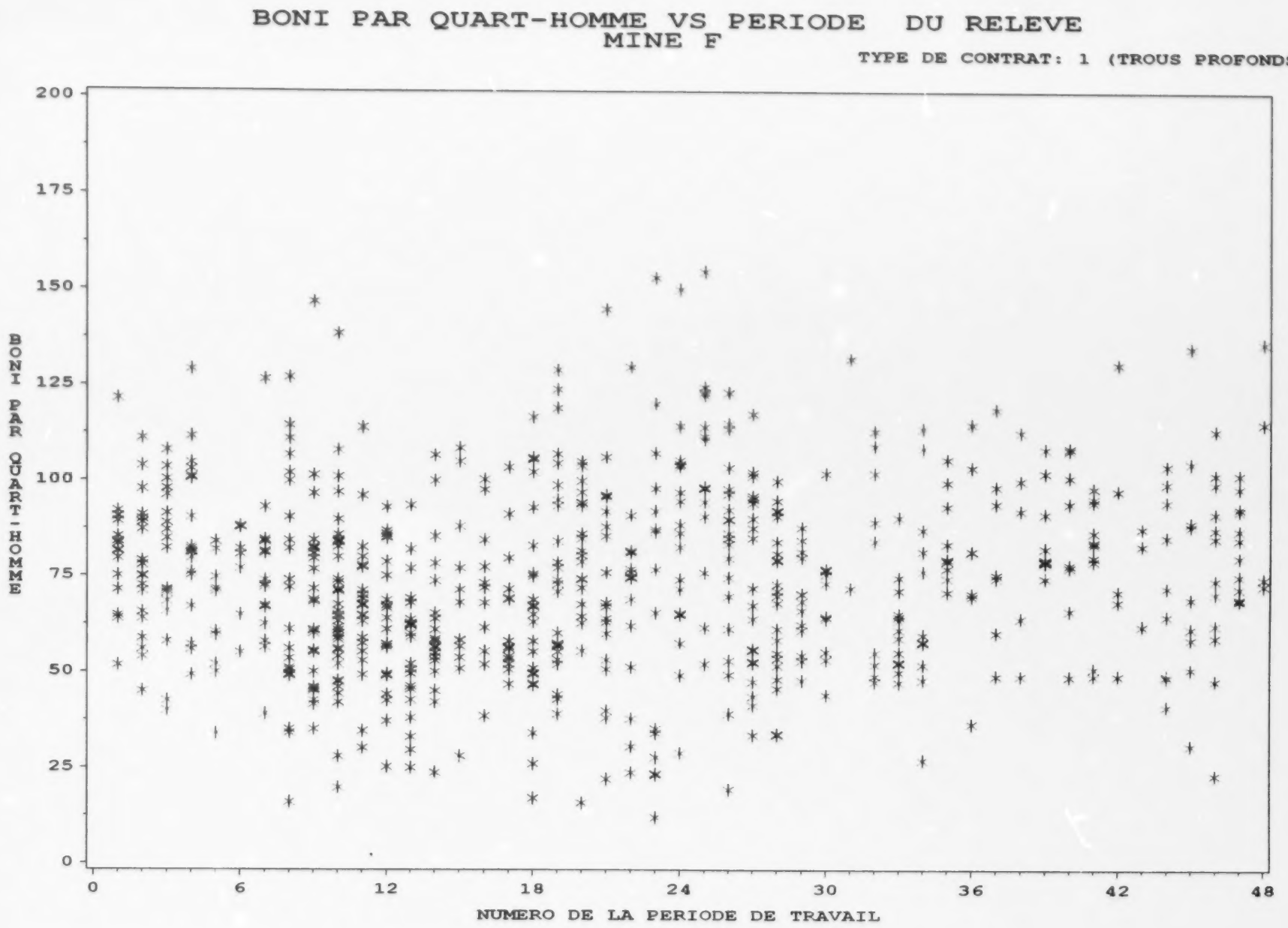


Figure F.31

FICHIER DES TRAVAILLEURS REGROUPES



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.32

PRIME AU RENDEMENT VS NOMBRE DE PIEDS FORES
MINE F

TYPE DE CONTRAT: 1 (TROUS PROFONDS)

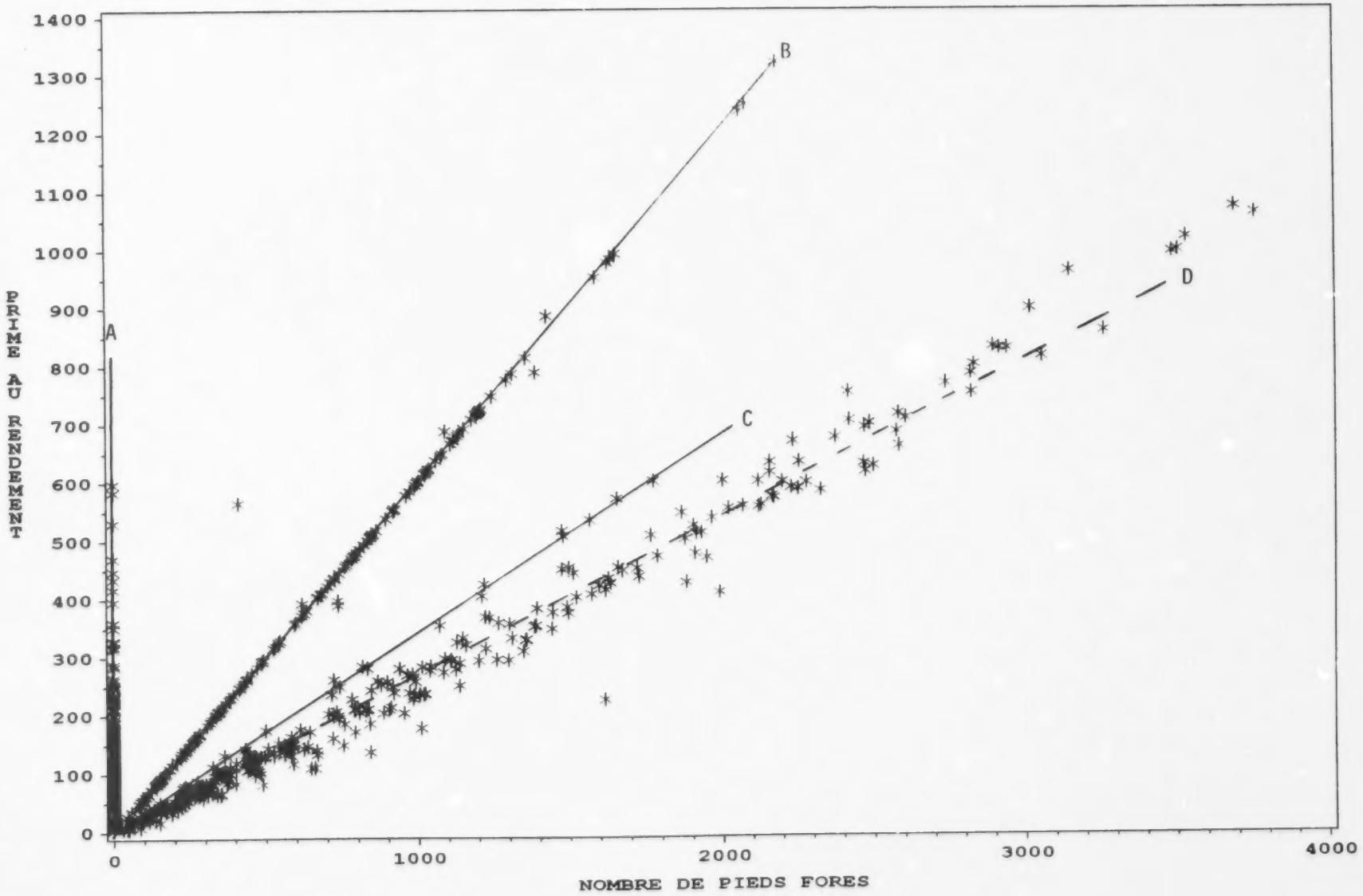
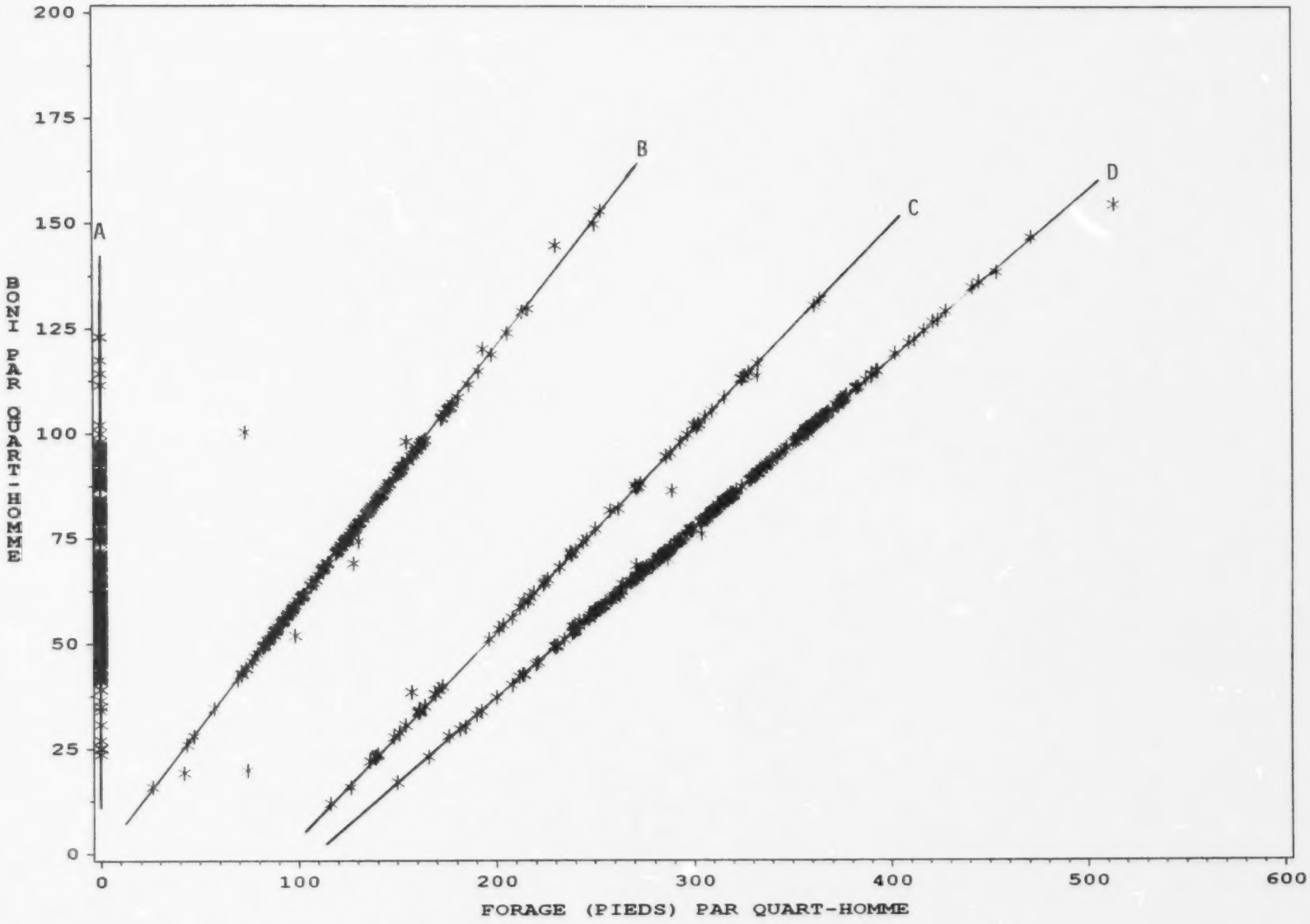


Figure F.33

FICHIER DES TRAVAILLEURS REGROUPES



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.34

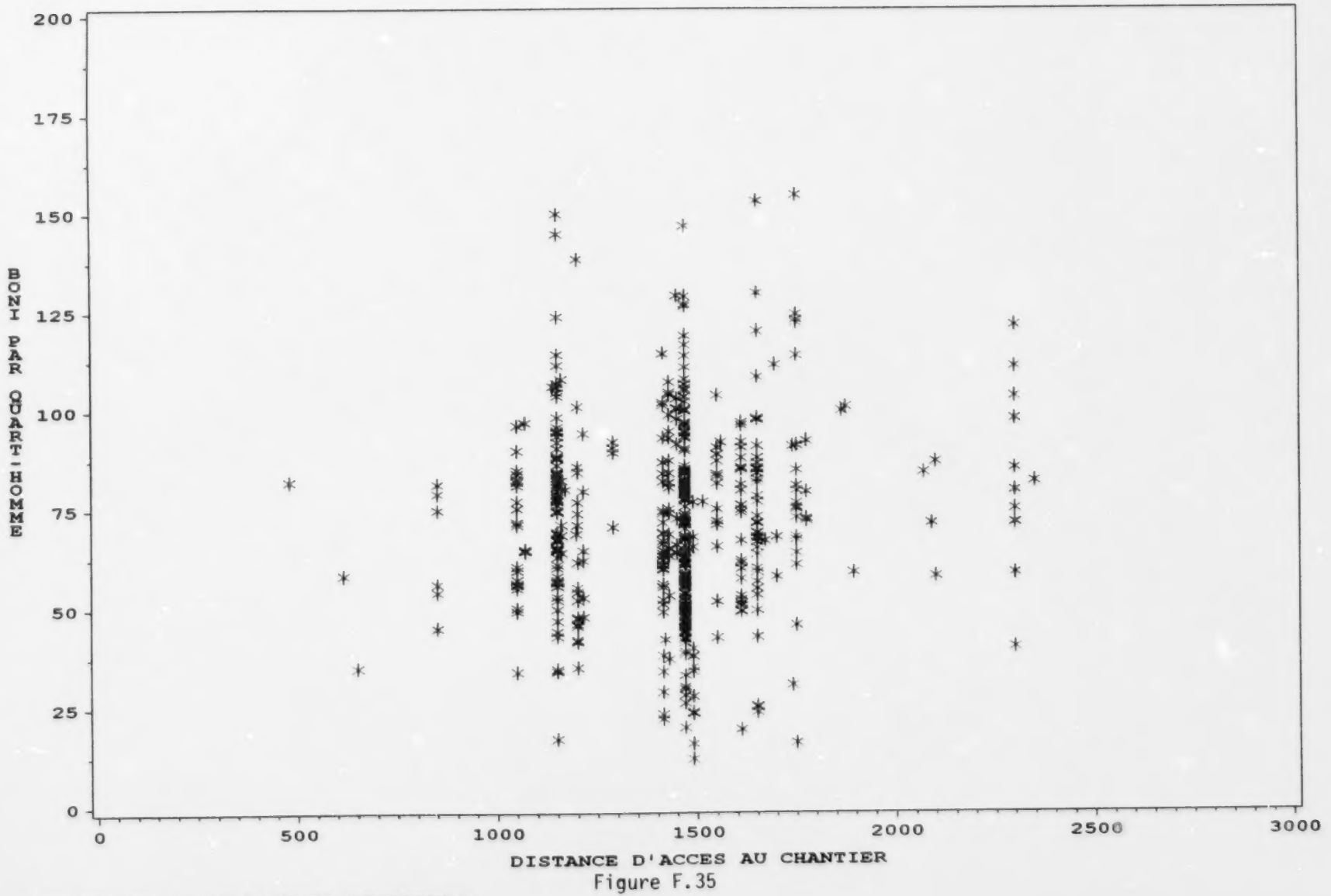
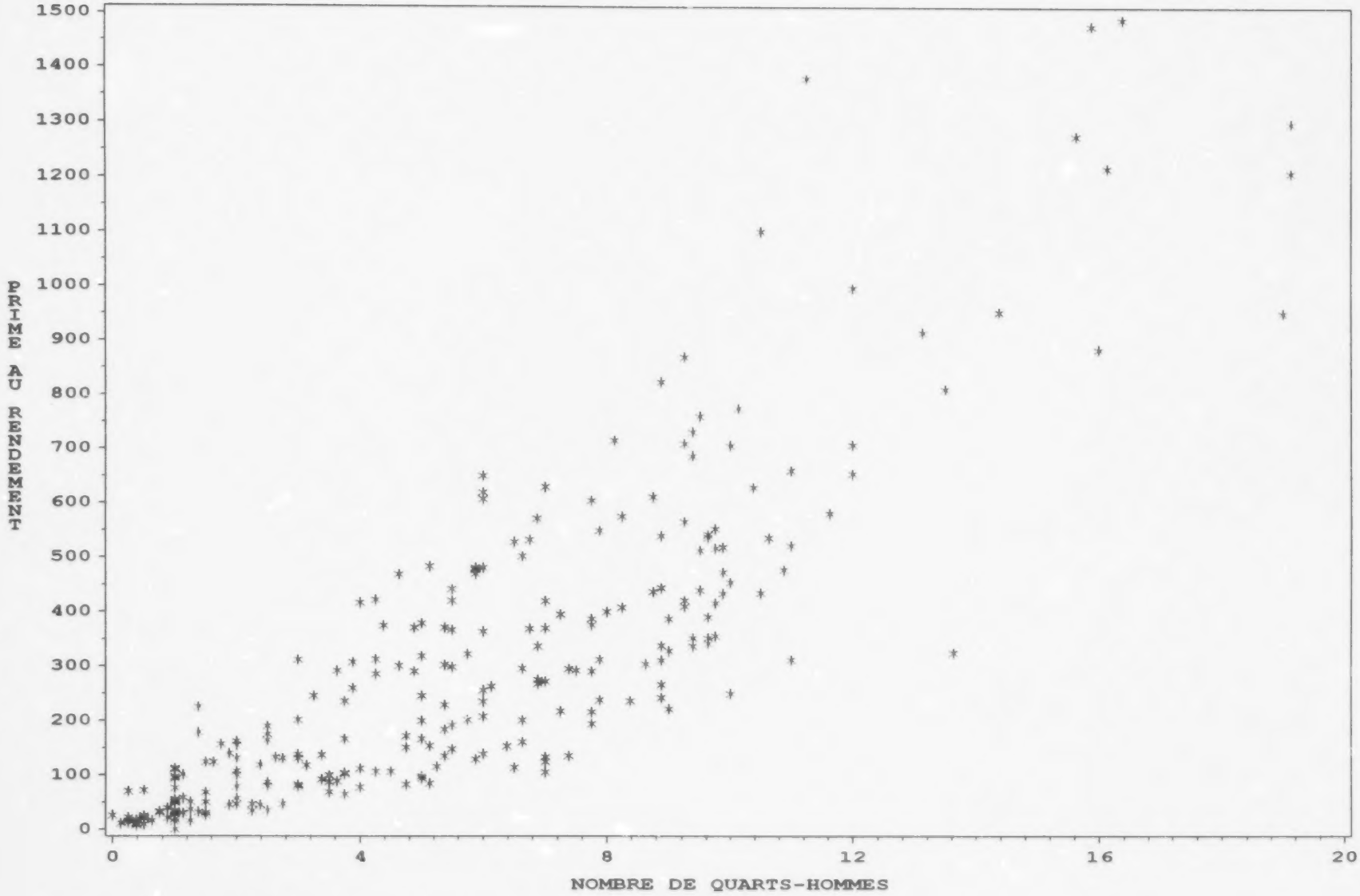

BONI PAR QUART-HOMME VS DISTANCE D'ACCES AU CHANTIER
MINE F
TYPE DE CONTRAT: 1 (TROUS PROFONDS)
BONI PAR QUART-HOMME
200
175
150
125
100
75
50
25
0
0
500
1000
1500
2000
2500
3000
DISTANCE D'ACCES AU CHANTIER
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.35

PRIME AU RENDEMENT VS NOMBRE DE QUARTS-HOMMES
MINE F

TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.36

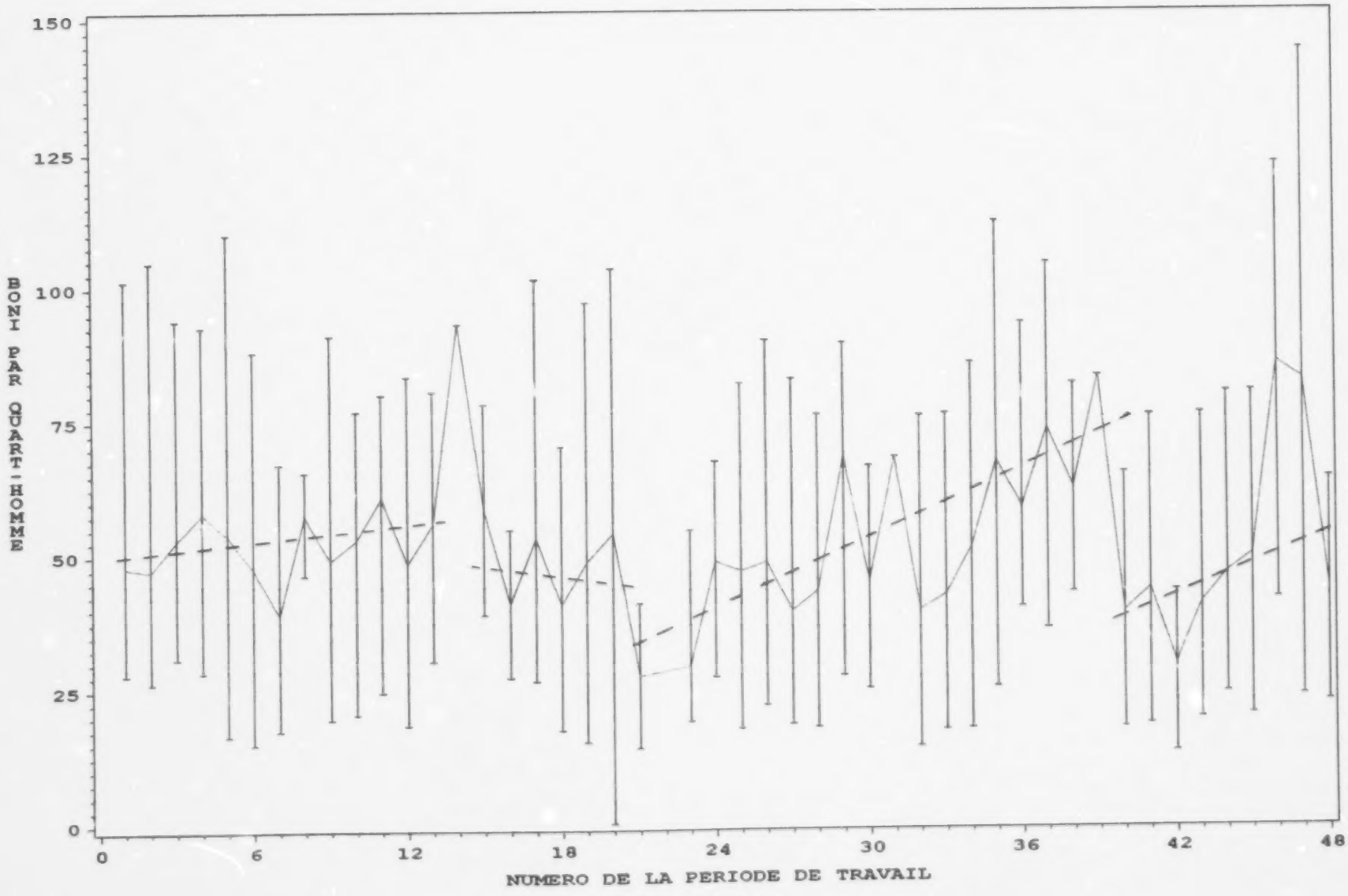
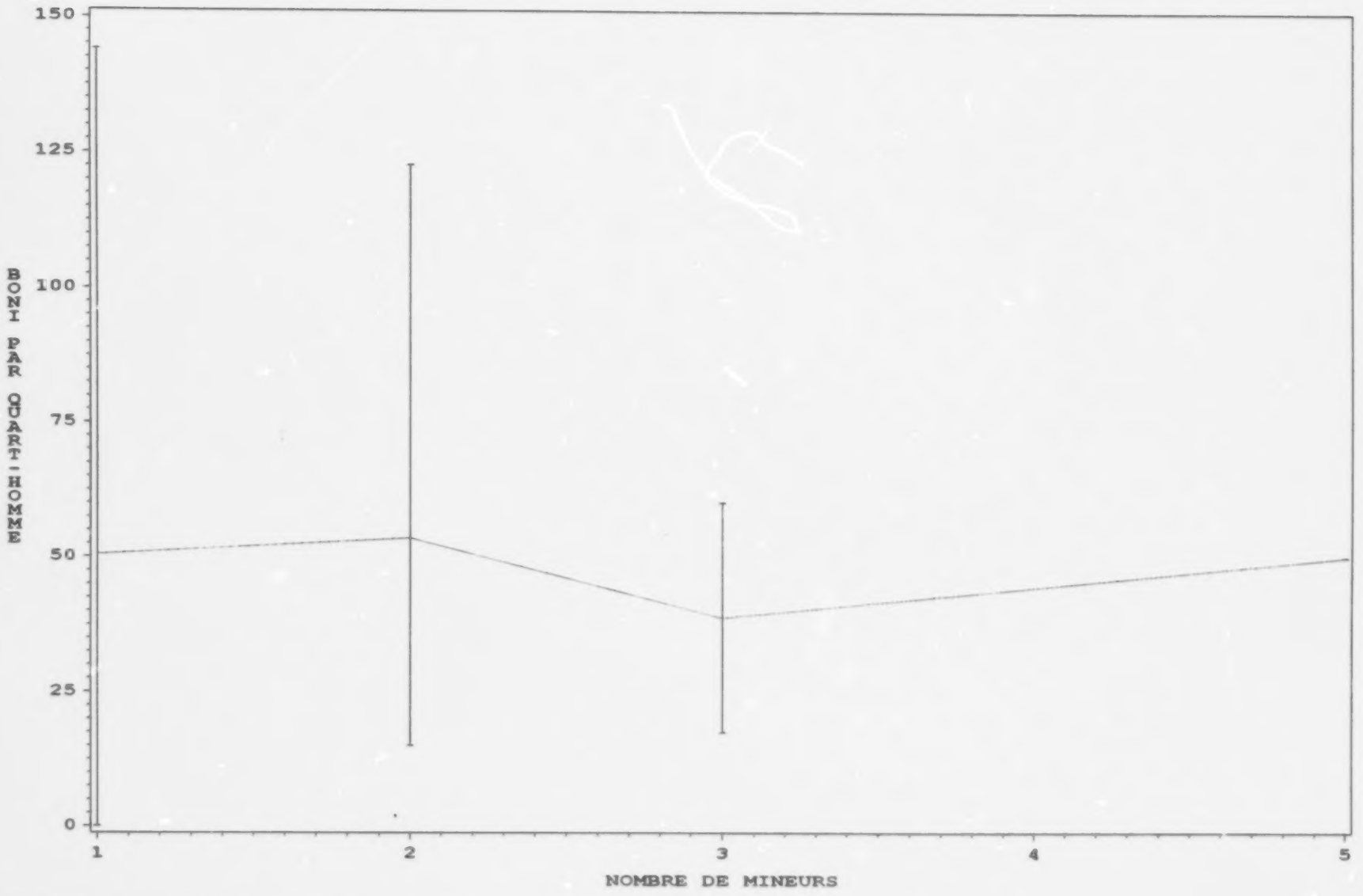

BONI PAR QUART VS PERIODE DU RELEVE
MINE F
TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)
BONI PAR QUART-HOMME
150
125
100
75
50
25
0
0
6
12
18
24
30
36
42
48
NUMERO DE LA PERIODE DE TRAVAIL
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.37

BONI PAR QUART-HOMME VS NOMBRE DE MINEURS
MINE F

TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.38

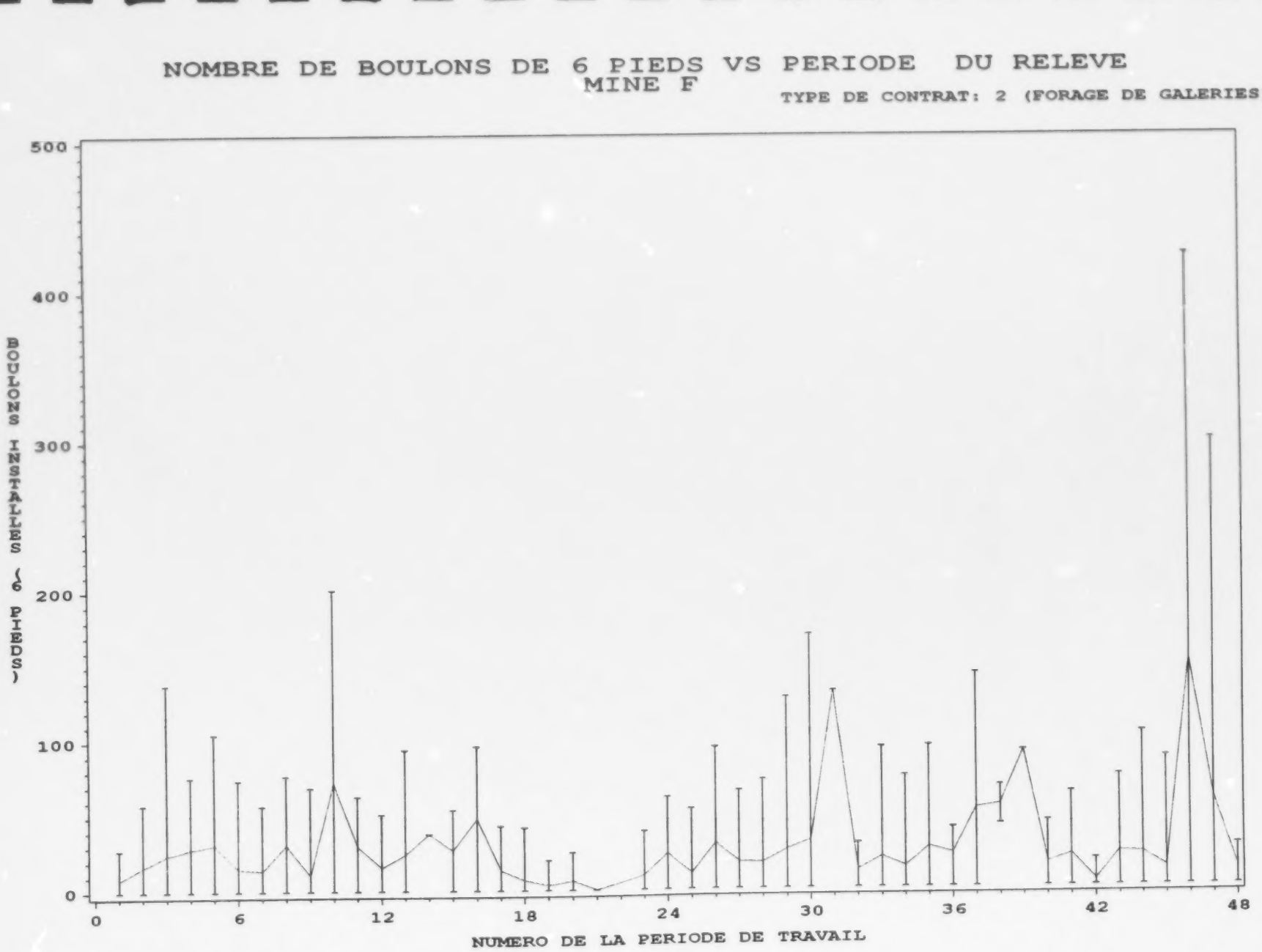
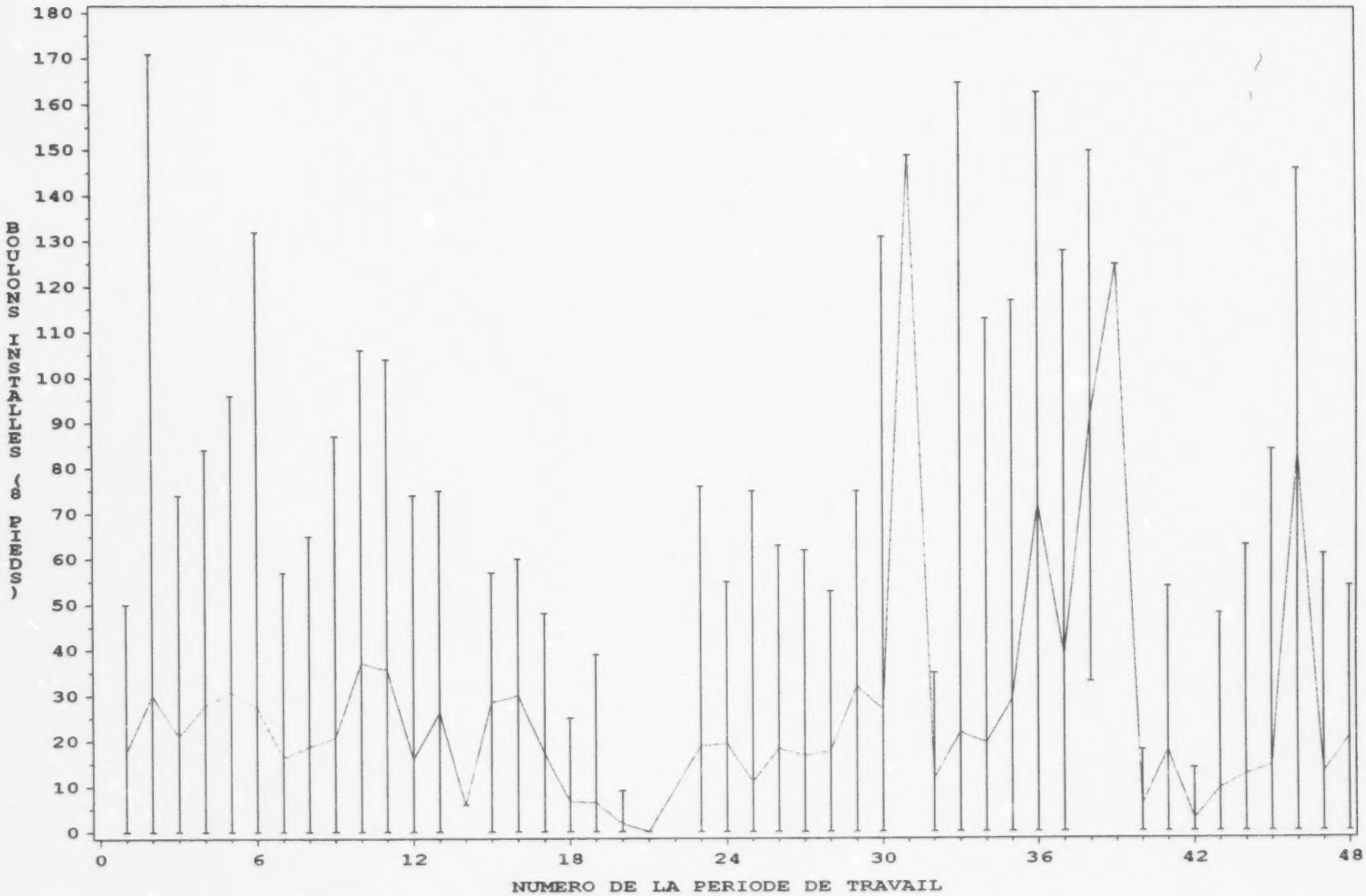

NOMBRE DE BOULONS DE 6 PIEDS VS PERIODE DU RELEVE
MINE F
TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)
BOULONS INSTALLES (6 PIEDS)
500
400
300
200
100
0
0
6
12
18
24
30
36
42
48
NUMERO DE LA PERIODE DE TRAVAIL
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.39

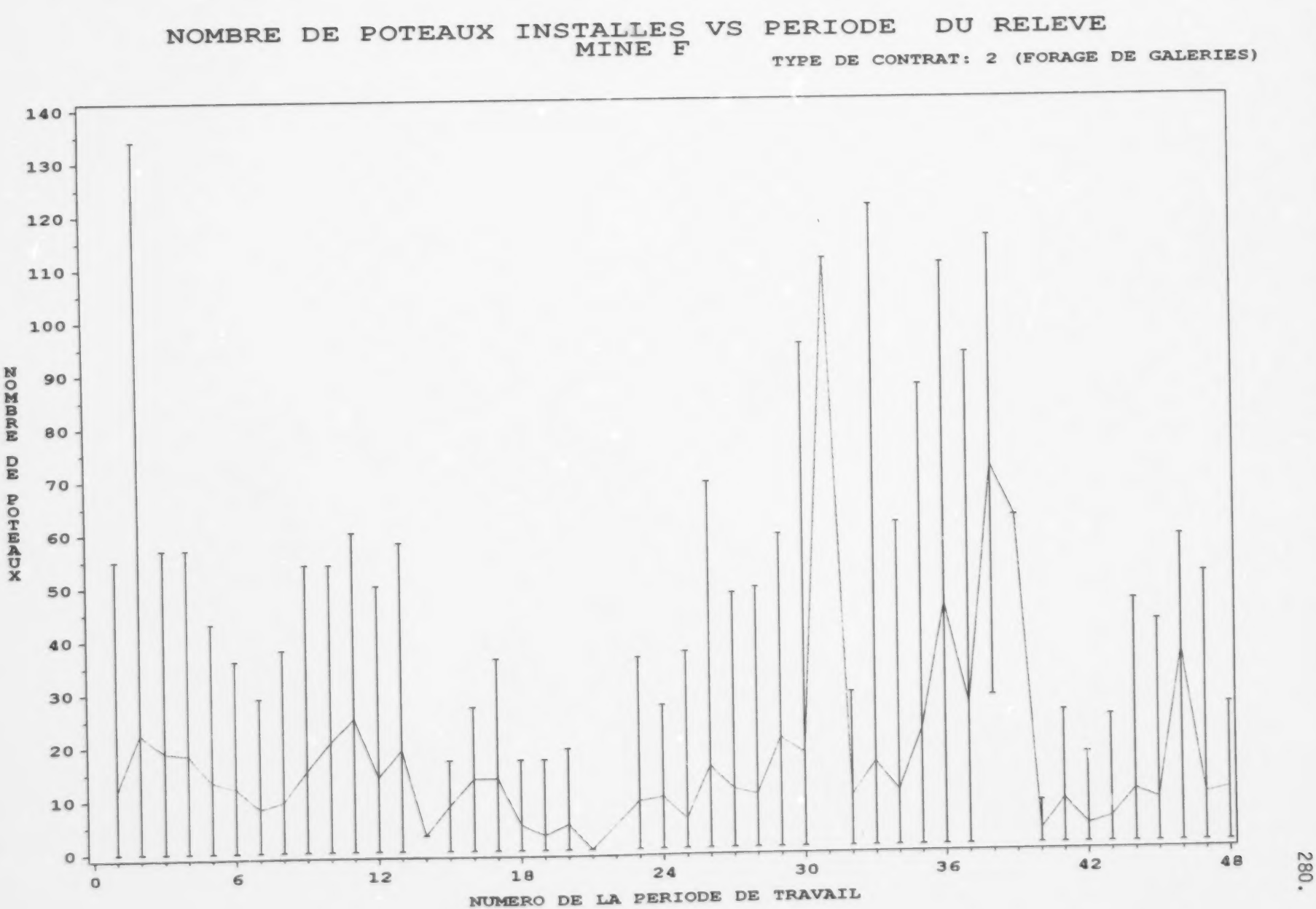
NOMBRE DE BOULONS DE 8 PIEDS VS PERIODE DU RELEVE
MINE F

TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)



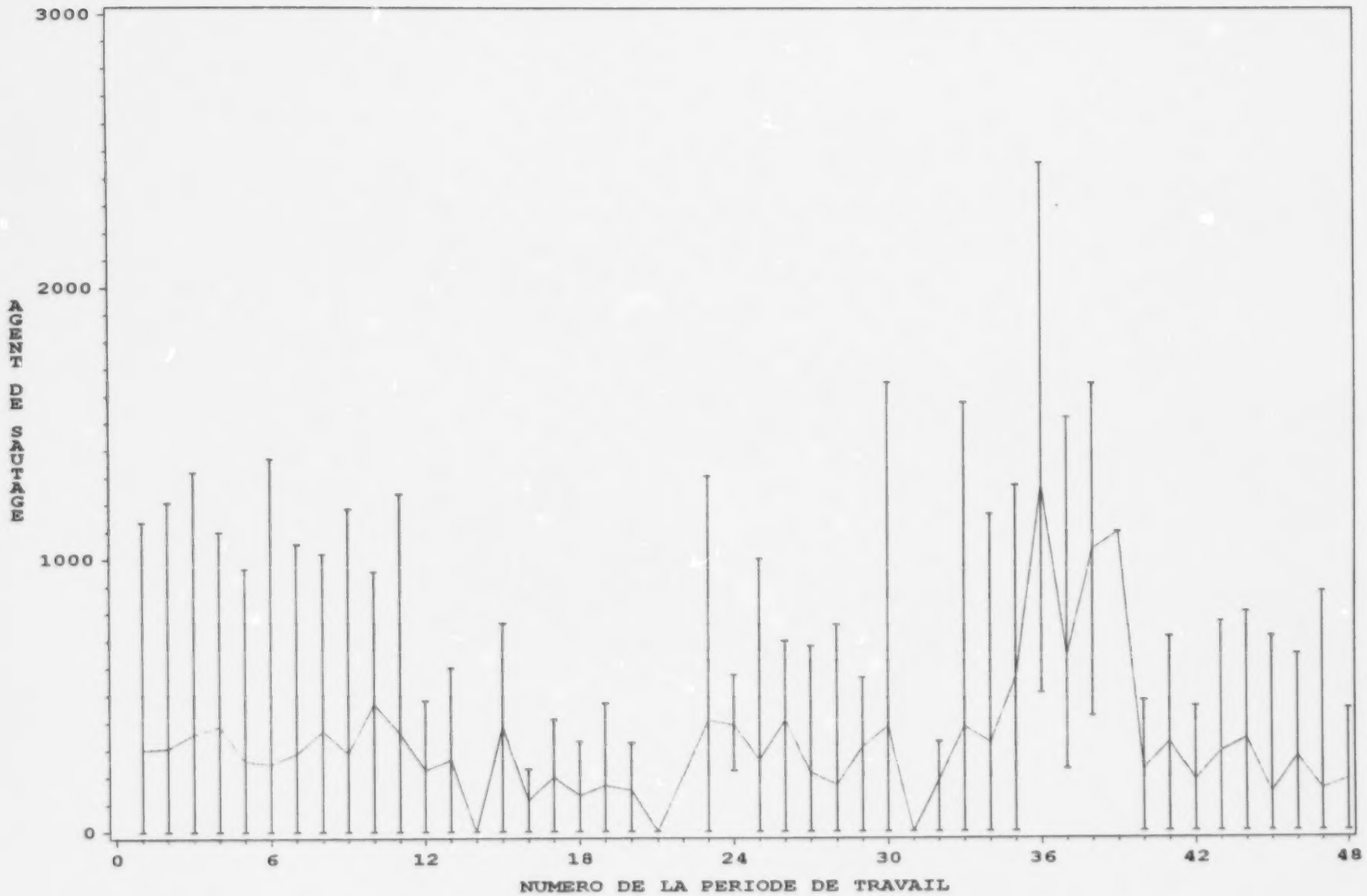
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.40



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.41



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.42

EXPLOSIF PERIPHERIQUE VS PERIODE DU RELEVE
MINE F

TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)

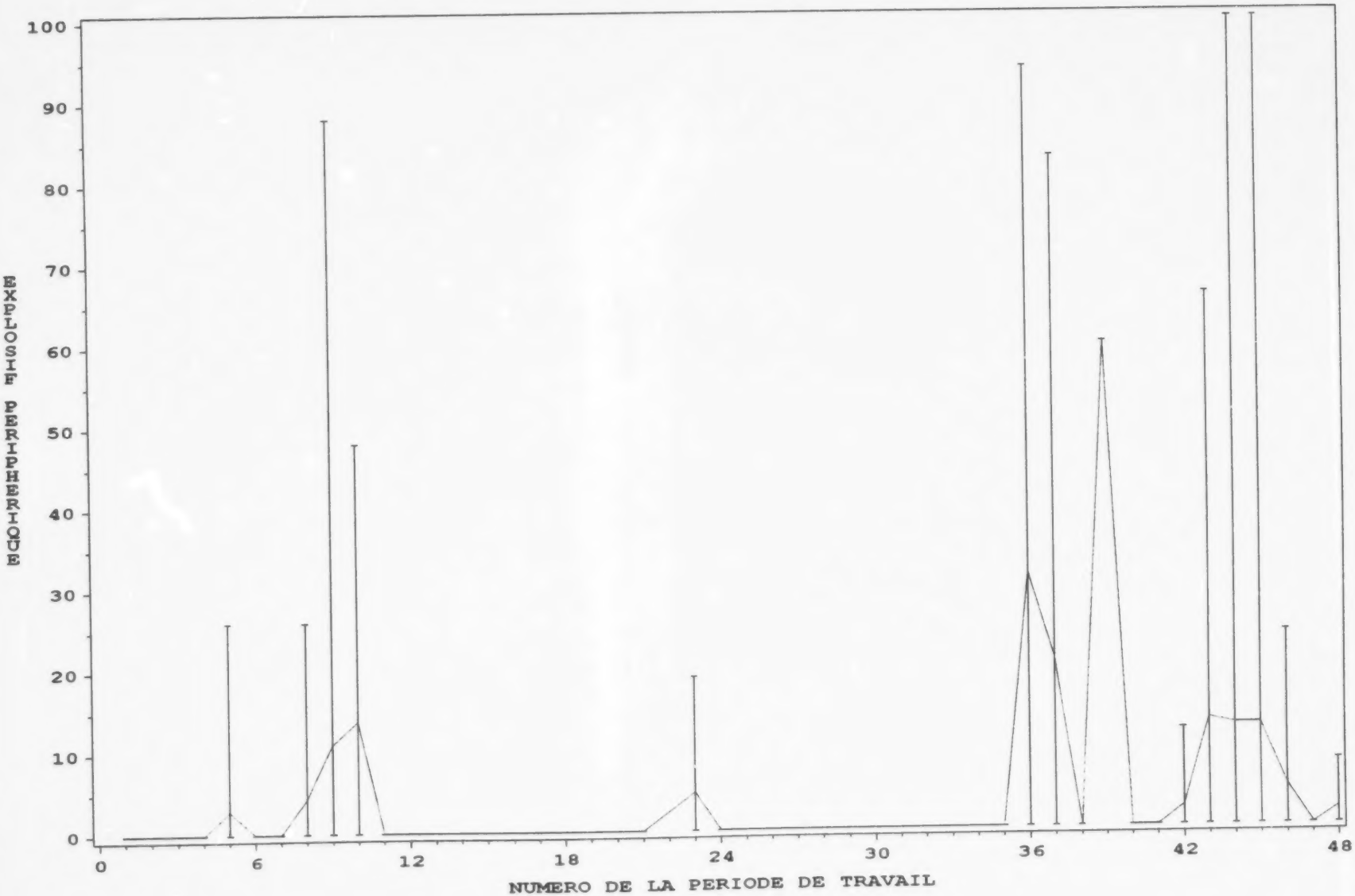


Figure F.43

FICHIER DES TRAVAILLEURS REGROUPES

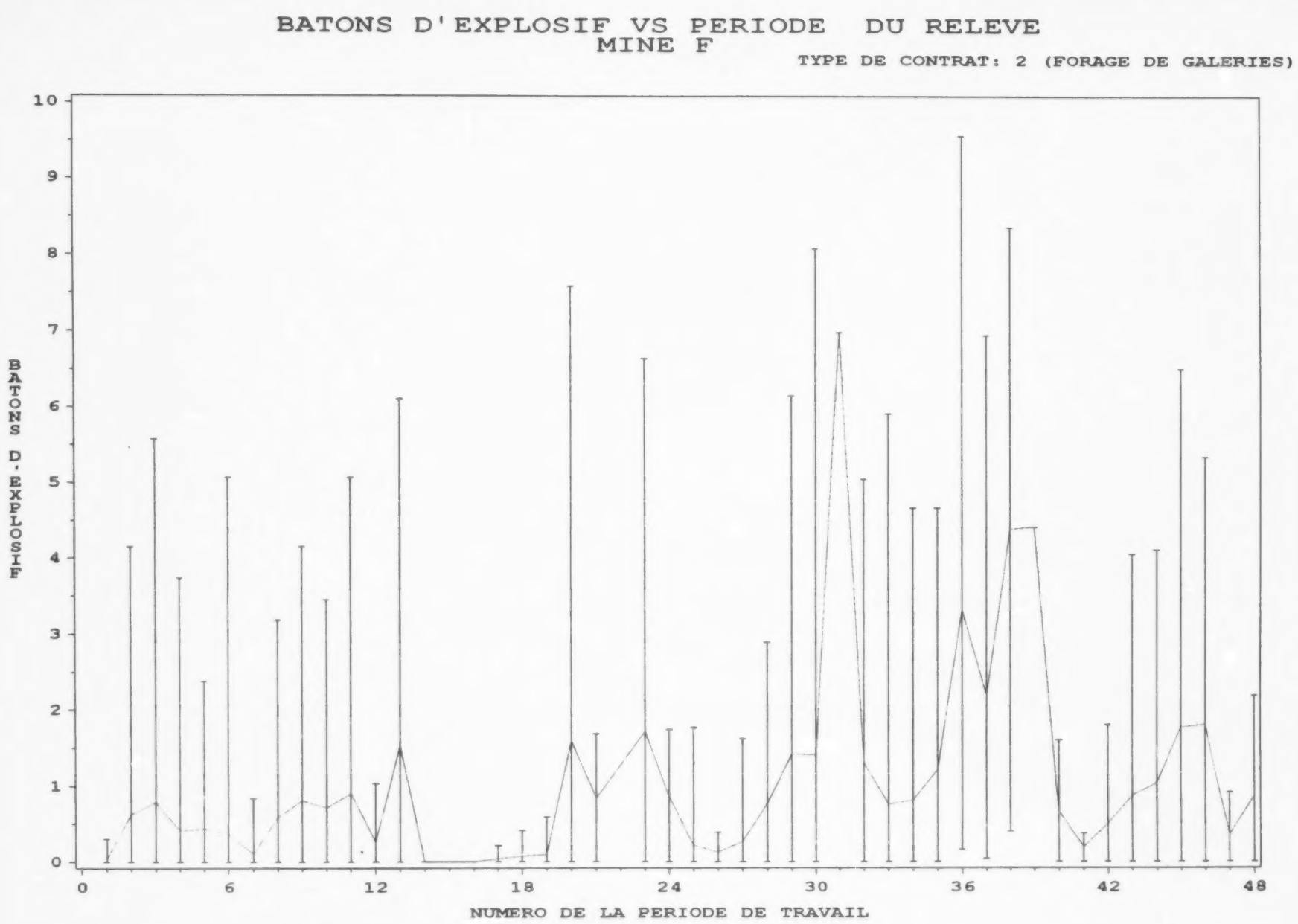


Figure F.44

FICHIER DES TRAVAILLEURS REGROUPES

VOLEE FOREE (75%) VS PERIODE DU RELEVE
MINE F

TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)

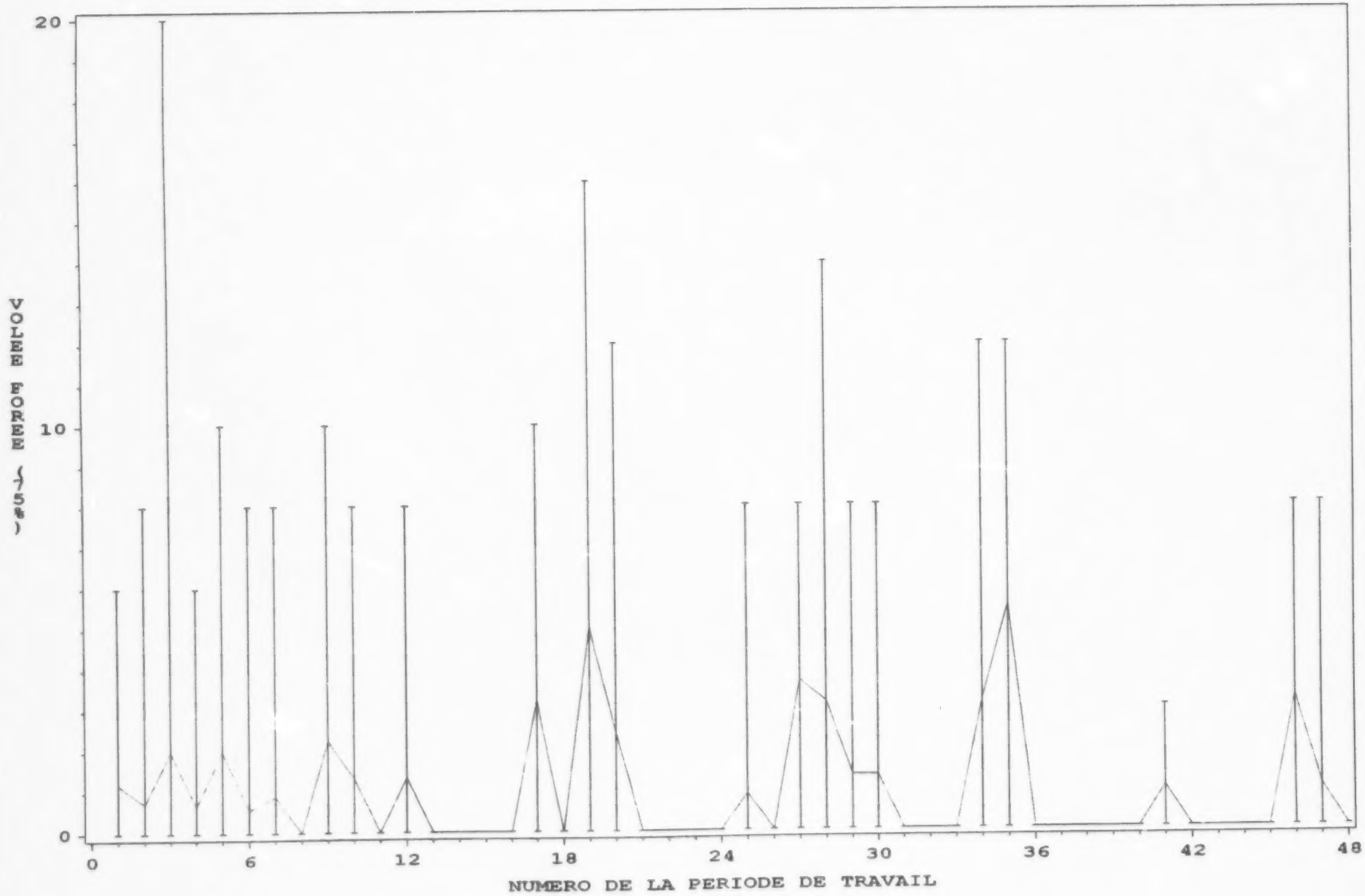
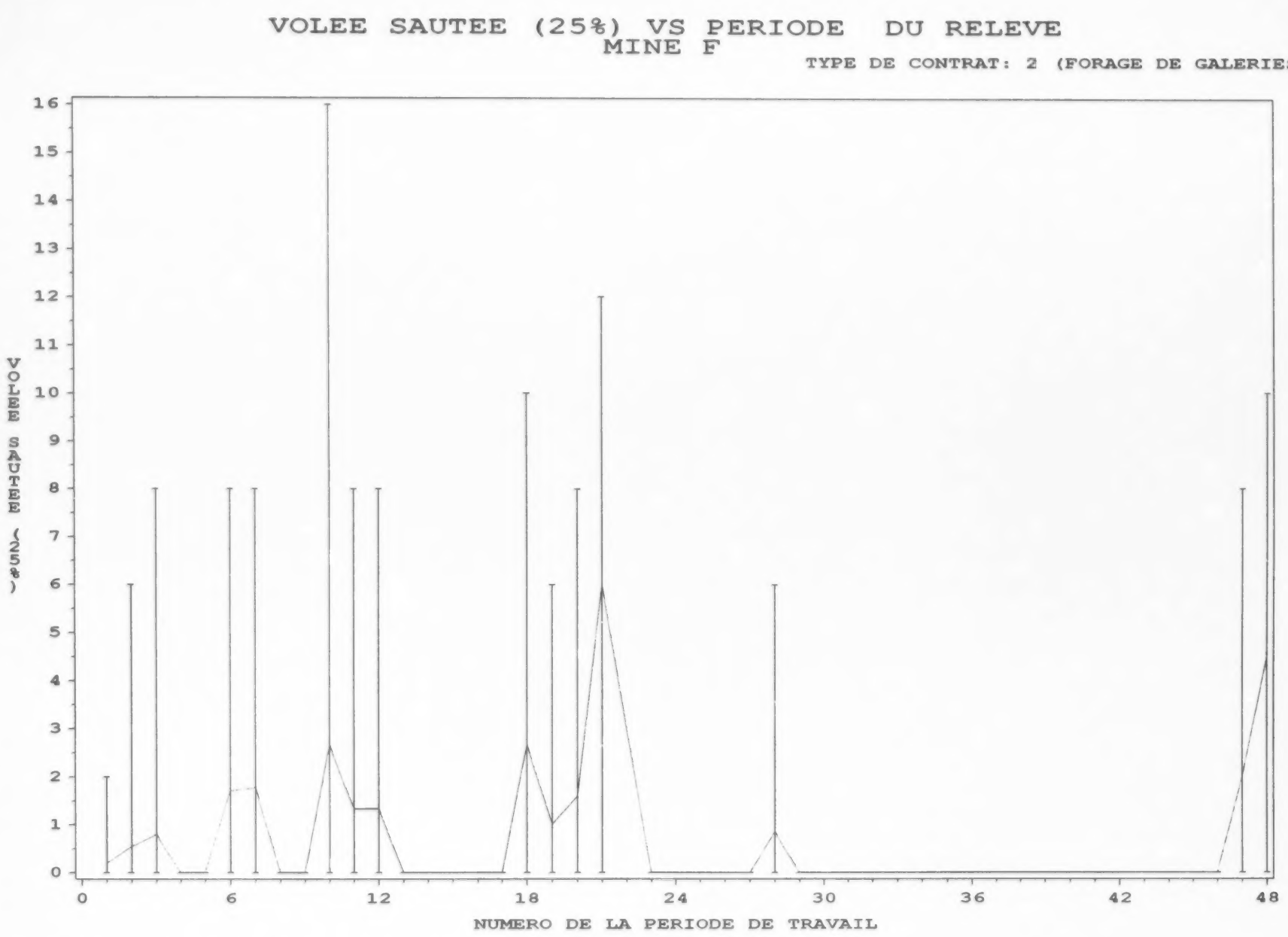


Figure F.45

FICHIER DES TRAVAILLEURS REGROUPES



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.46

CHEMINEE 6*6 (80 DEGRES) VS PERIODE DU RELEVE
MINE F

TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)

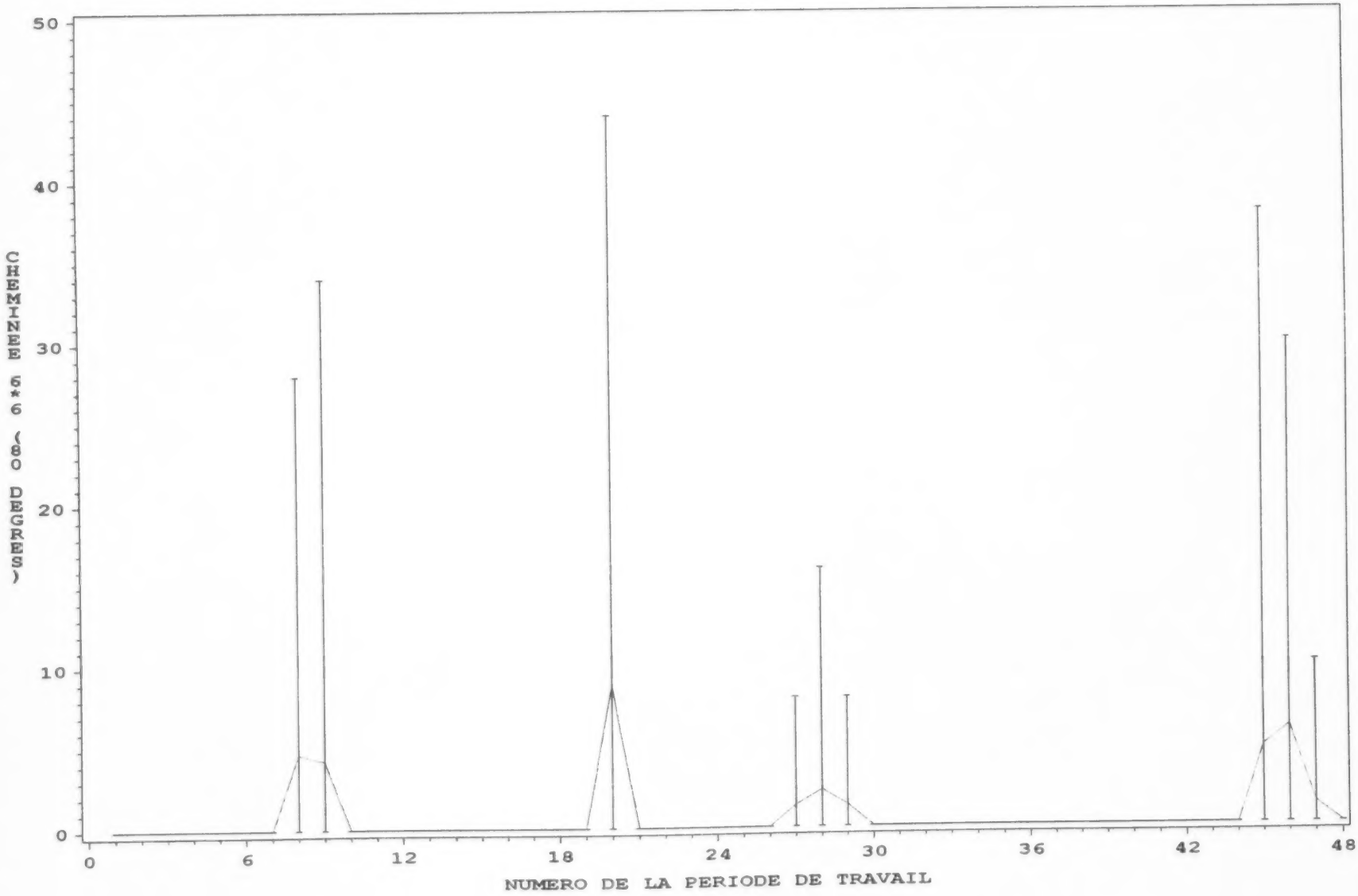


Figure F.47

FICHIER DES TRAVAILLEURS REGROUPES

CHEMINEE 8*8 (80 DEGRES) VS PERIODE DU RELEVE
MINE F

TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)

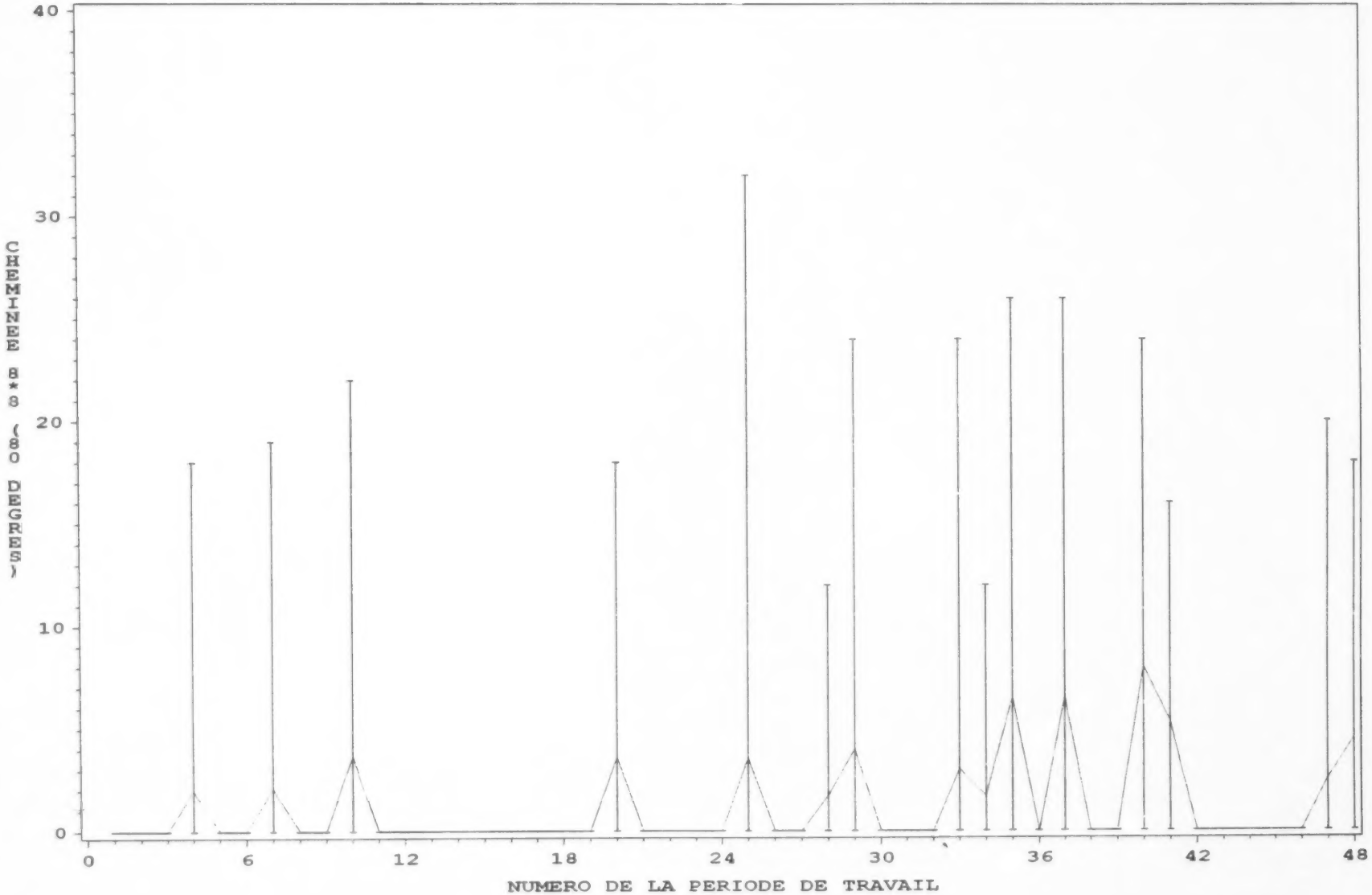


Figure F.48

FICHIER DES TRAVAILLEURS REGROUPES

CHEMINEE 9*9 (80 DEGRES) VS PERIODE DU RELEVE
MINE F

TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)

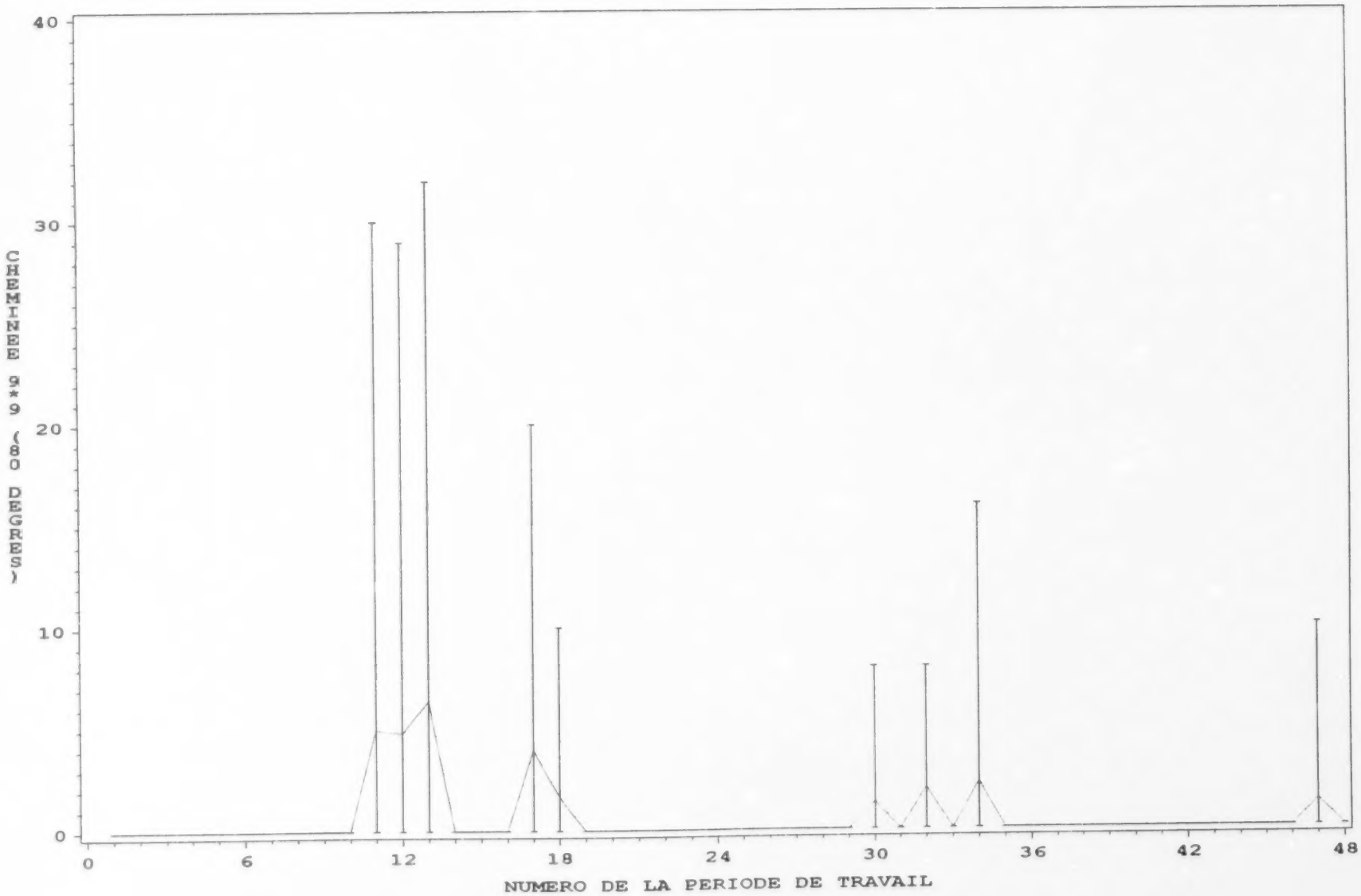


Figure F.49

FICHIER DES TRAVAILLEURS REGROUPES

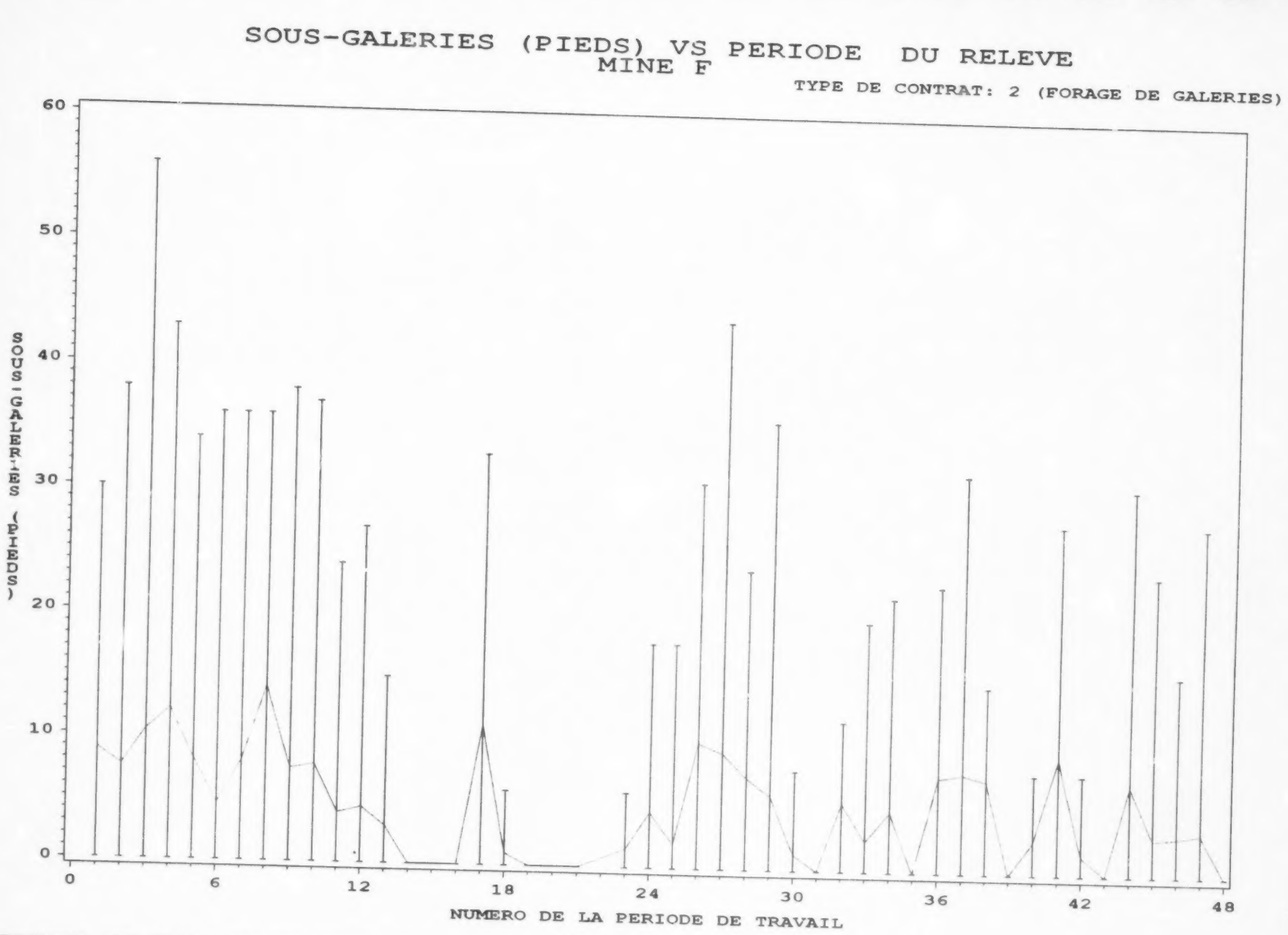
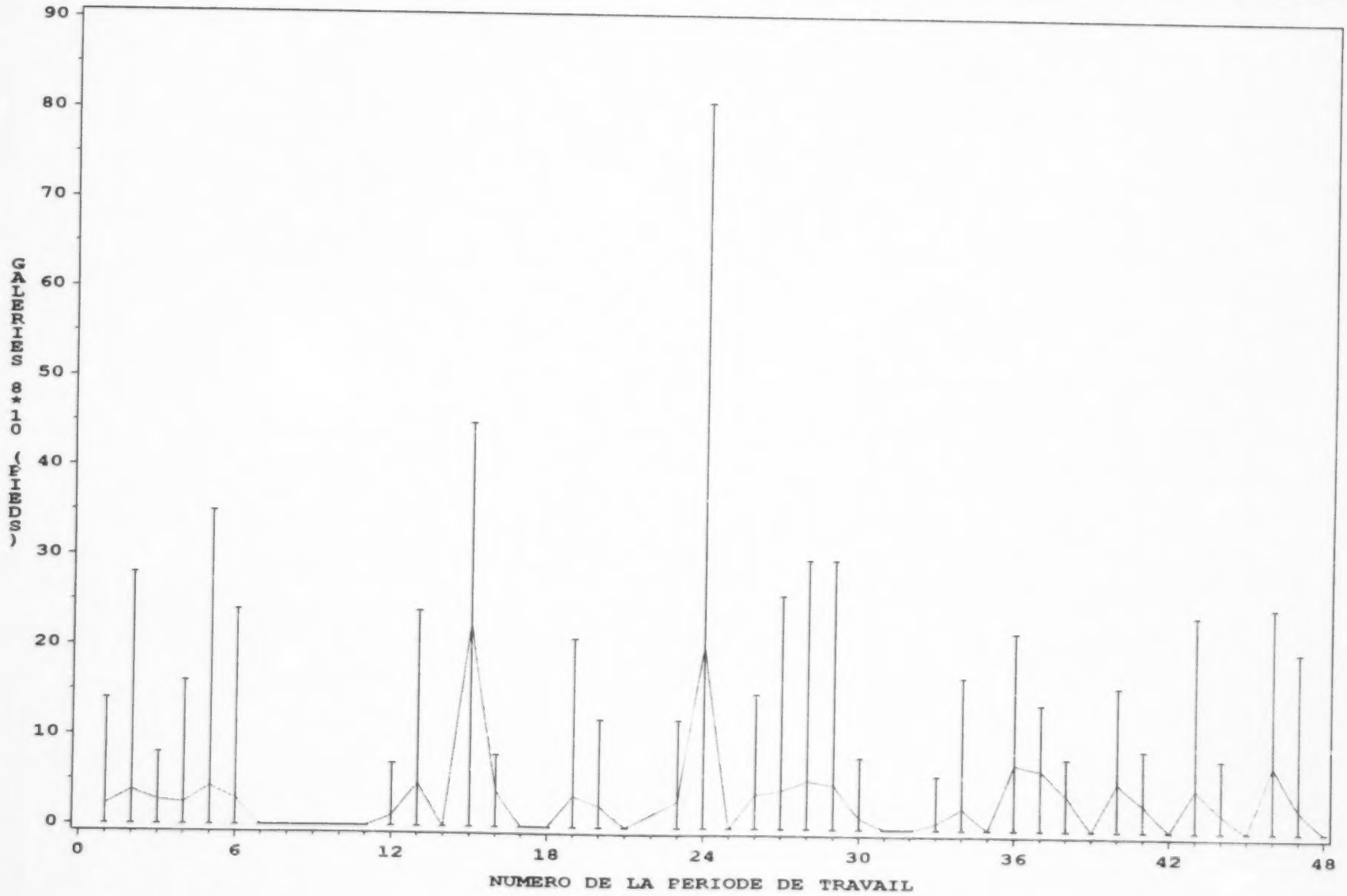

SOUS-GALERIES (PIEDS) VS PERIODE DU RELEVE
MINE F
TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)
SOUS-GALERIES (PIEDS)
60
50
40
30
20
10
0
0
6
12
18
24
30
36
42
48
NUMERO DE LA PERIODE DE TRAVAIL
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.50

GALERIES 8*10 (PIEDS) VS PERIODE DU RELEVE
MINE F

TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.51

GALERIES 8*12 (PIEDS) VS PERIODE DU RELEVE
MINE F

TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)

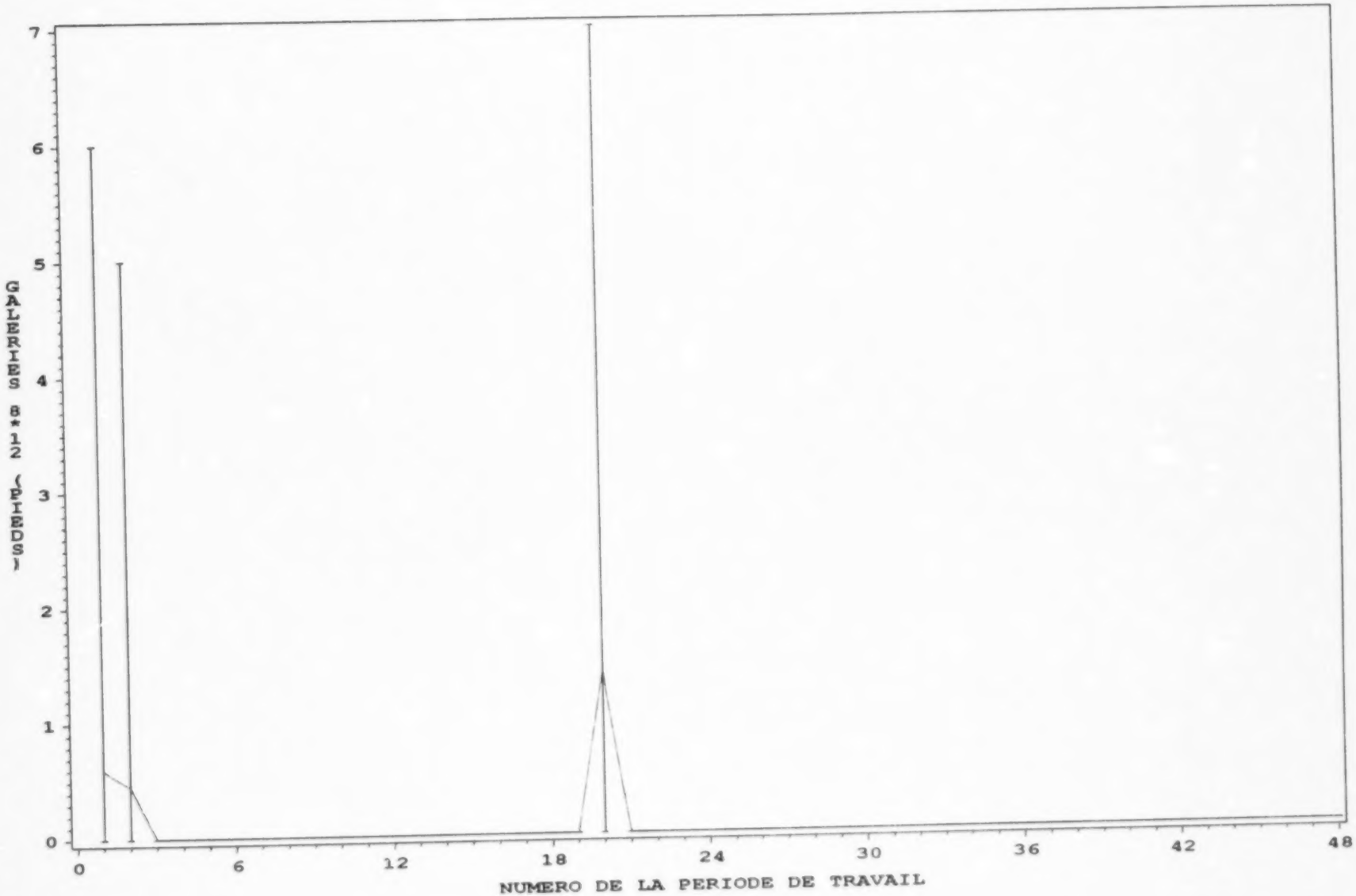


Figure F.52

FICHIER DES TRAVAILLEURS REGROUPES

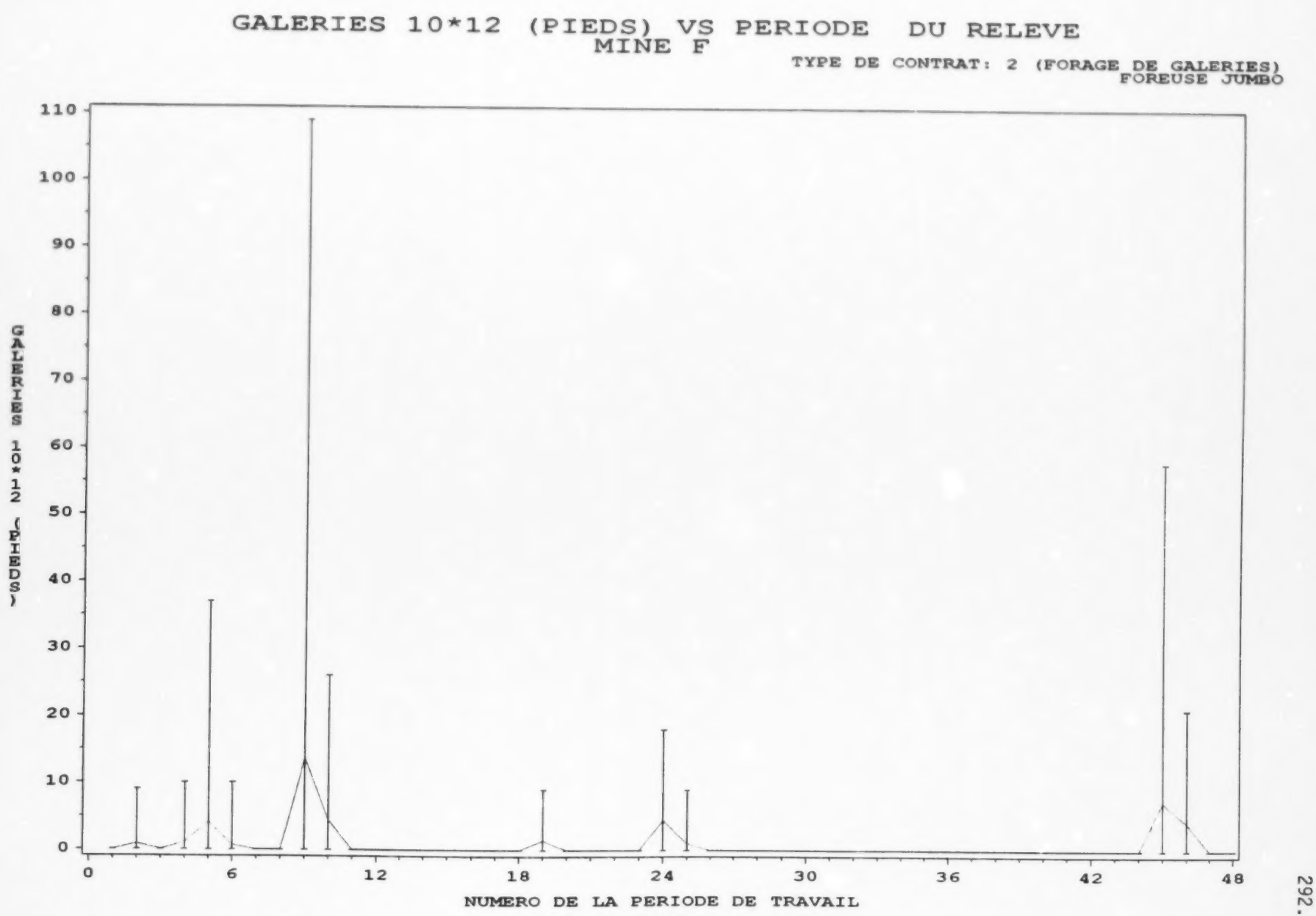

GALERIES 10*12 (PIEDS) VS PERIODE DU RELEVE
MINE F
TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)
FOREUSE JUMBO
GALERIES 10*12 (PIEDS)
110
100
90
80
70
60
50
40
30
20
10
0
0
6
12
18
24
30
36
42
48
NUMERO DE LA PERIODE DE TRAVAIL
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.53

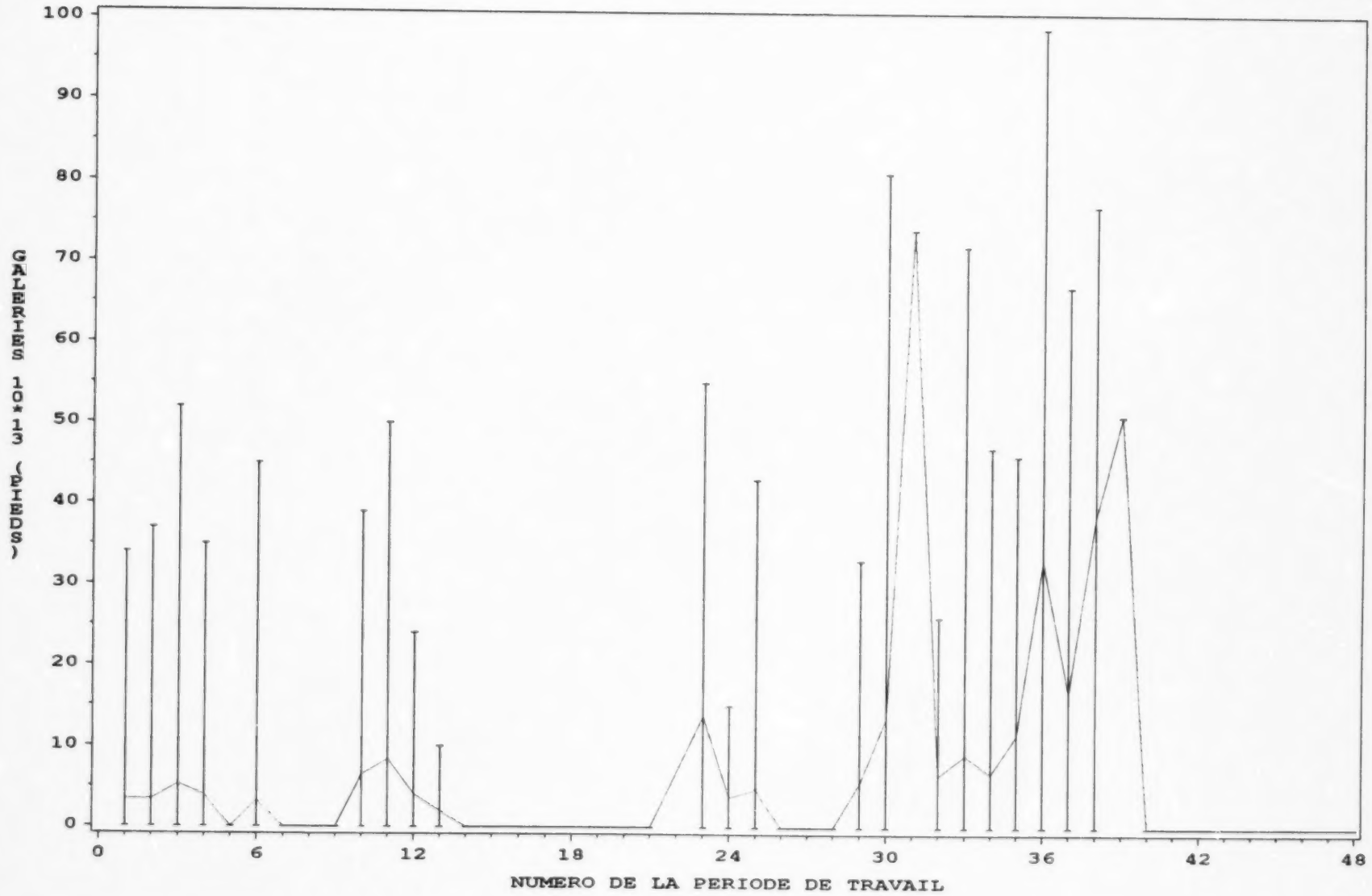

GALERIES 10*13 (PIEDS) VS PERIODE DU RELEVE
MINE F
TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)
FOREUSE JUMBO
GALERIES 10*13 (PIEDS)
100
90
80
70
60
50
40
30
20
10
0
0
6
12
18
24
30
36
42
48
NUMERO DE LA PERIODE DE TRAVAIL
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.54

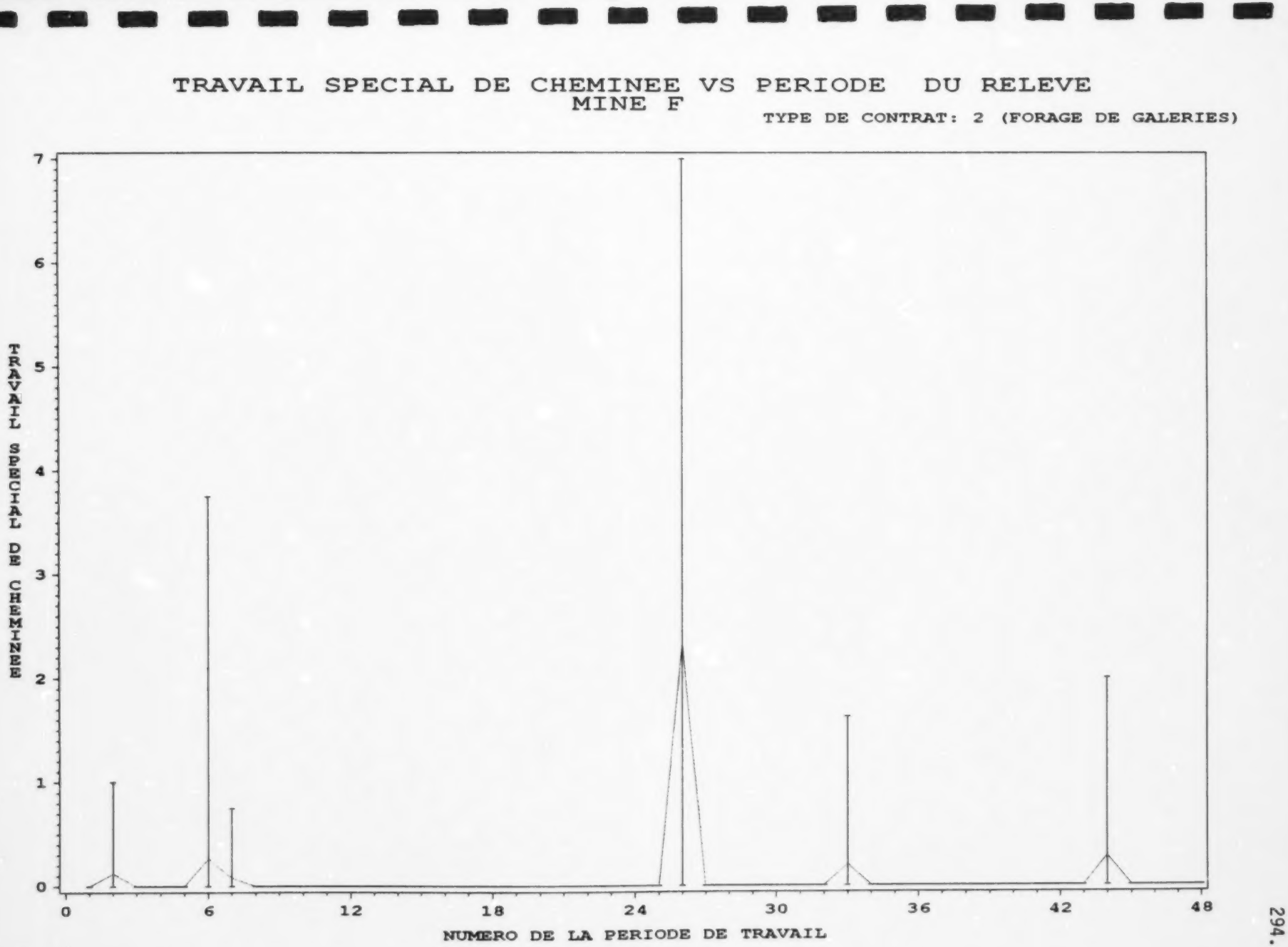
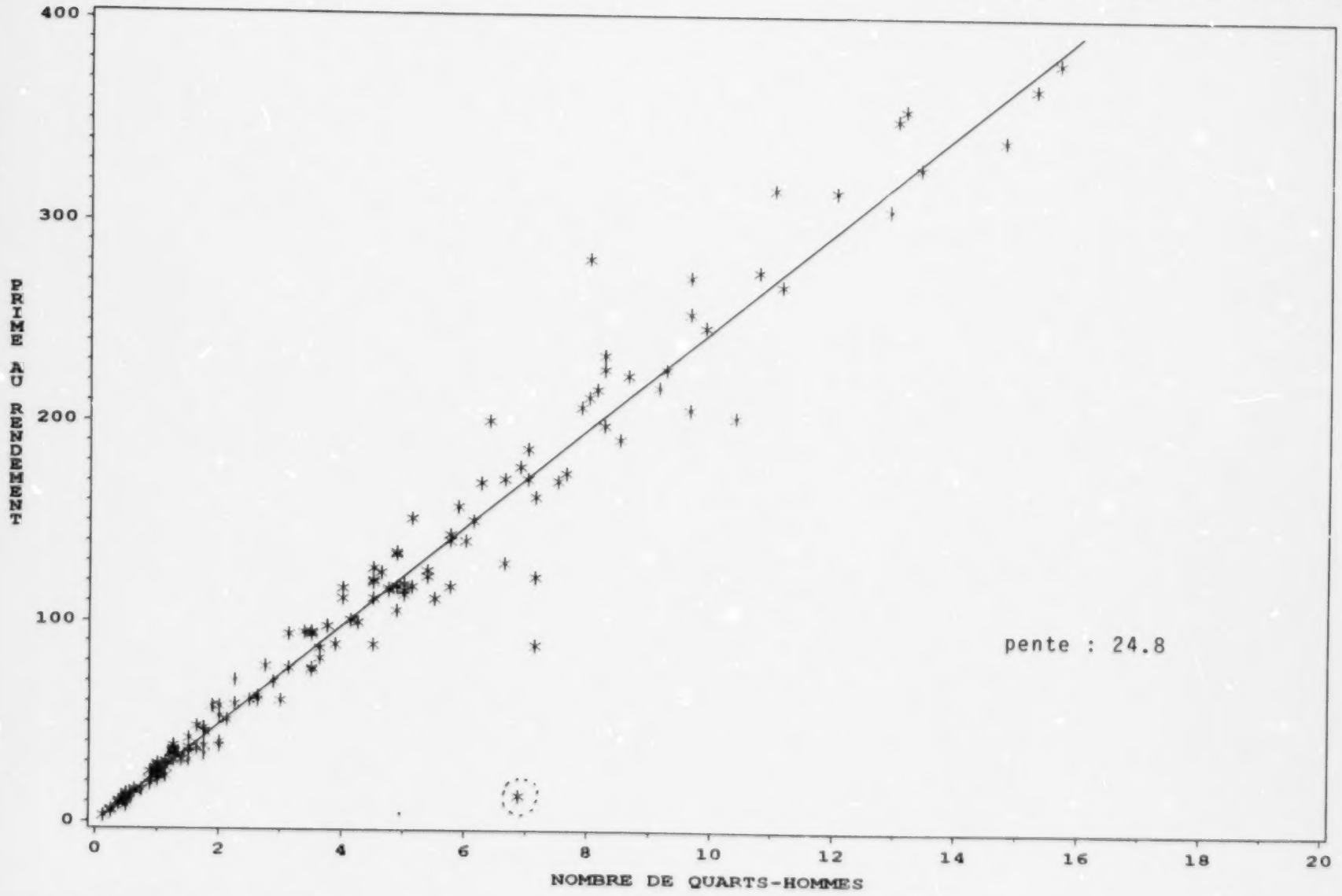

TRAVAIL SPECIAL DE CHEMINEE VS PERIODE DU RELEVE
MINE F
TYPE DE CONTRAT: 2 (FORAGE DE GALERIES)
TRAVAIL SPECIAL DE CHEMINEE
0
1
2
3
4
5
6
7
0
6
12
18
24
30
36
42
48
NUMERO DE LA PERIODE DE TRAVAIL
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.55

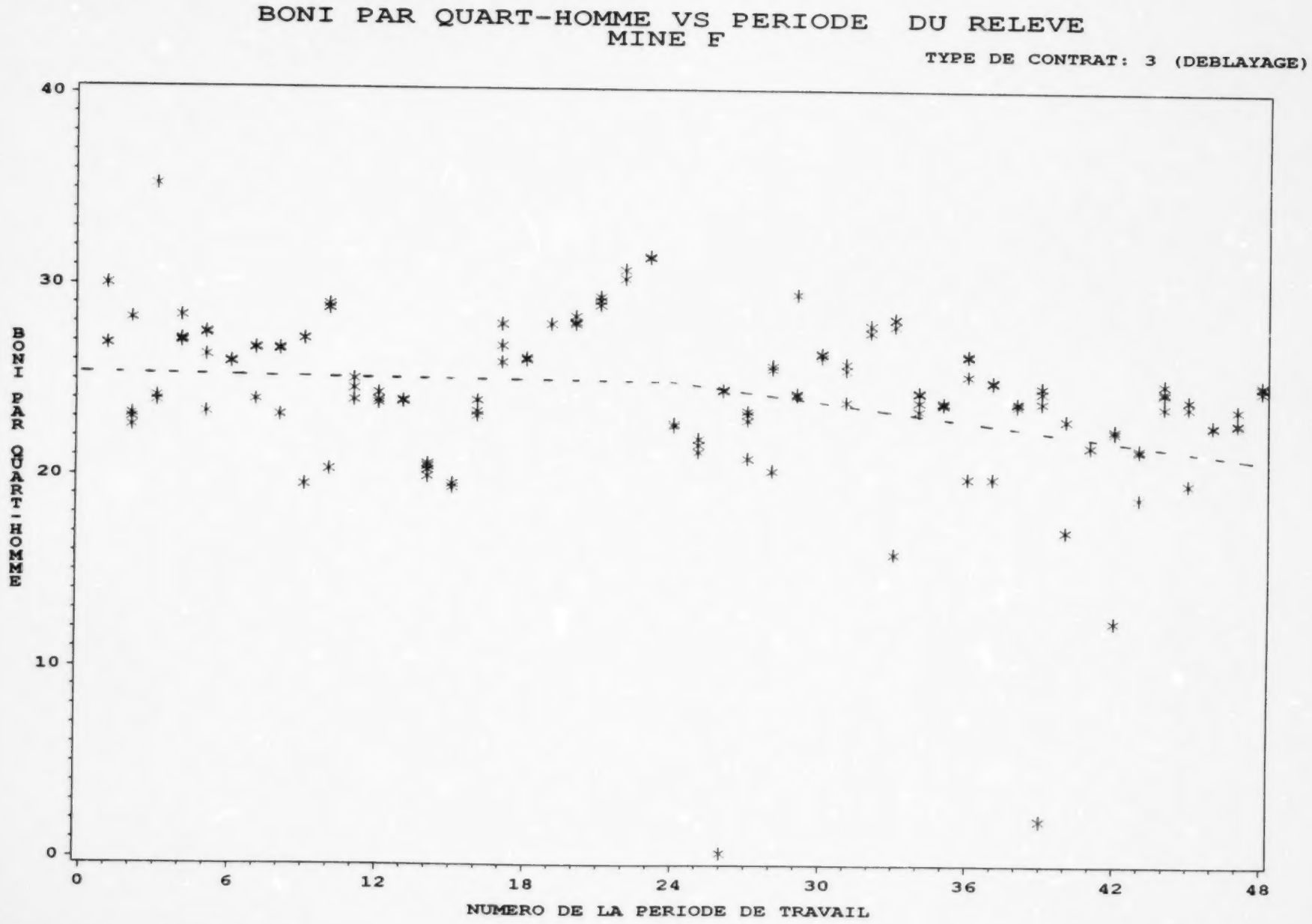
PRIME AU RENDEMENT VS NOMBRE DE QUARTS-HOMMES
MINE F

TYPE DE CONTRAT: 3 (DEBLAYAGE)



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.56



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.57

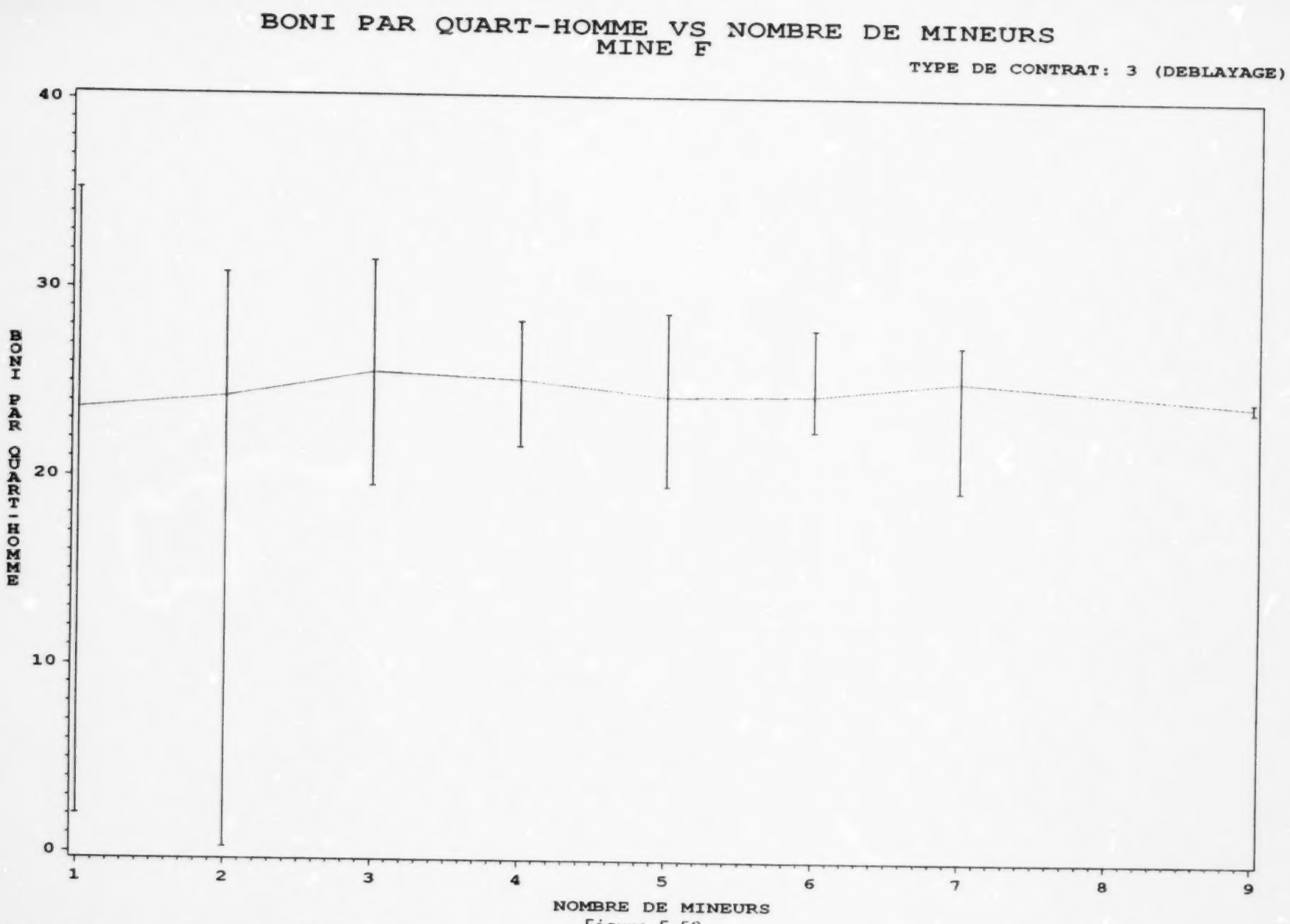
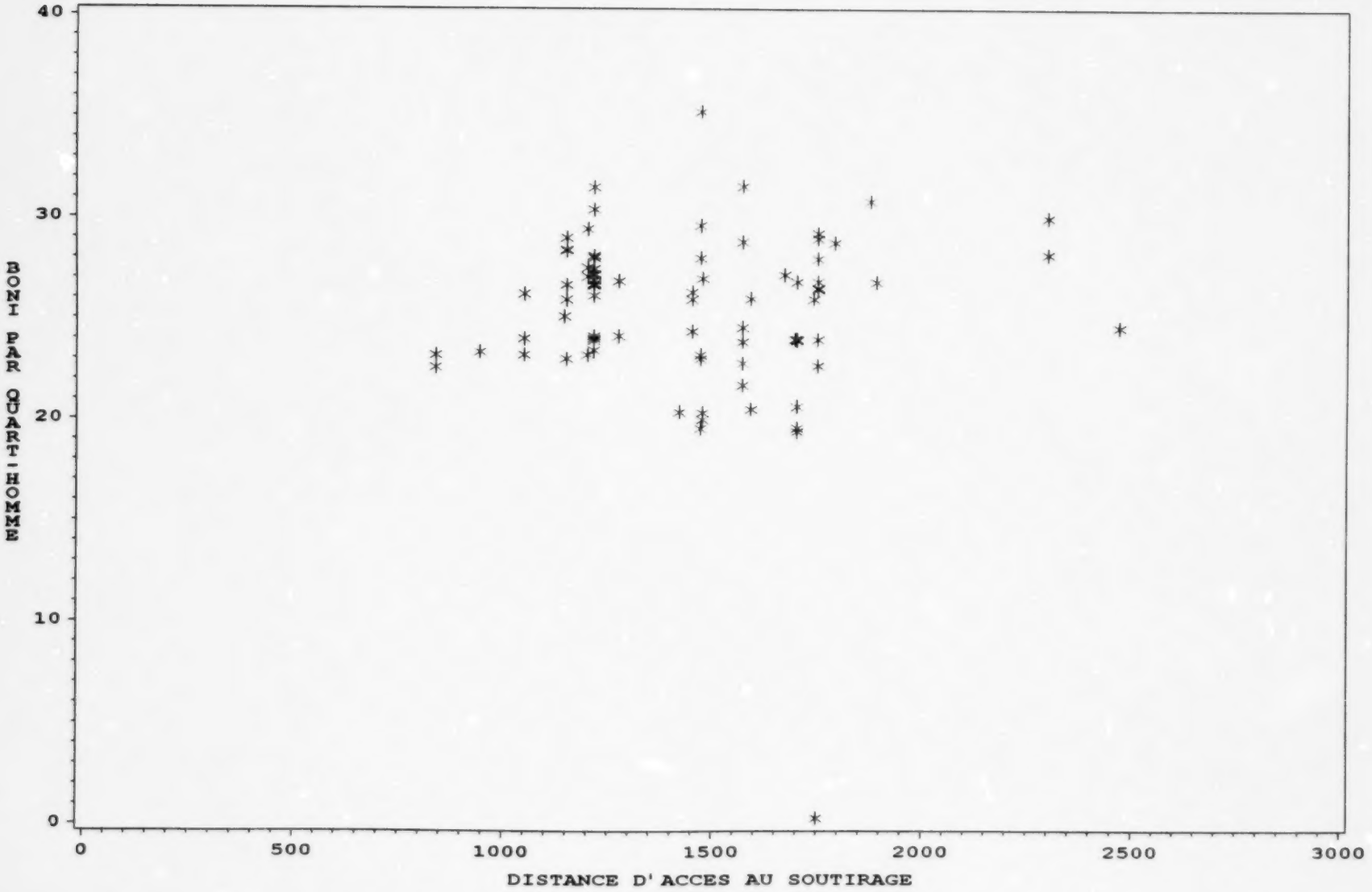

BONI PAR QUART-HOMME VS NOMBRE DE MINEURS
MINE F
TYPE DE CONTRAT: 3 (DEBLAYAGE)
BONI PAR QUART-HOMME
40
30
20
10
0
1
2
3
4
5
6
7
8
9
NOMBRE DE MINEURS
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.58

BONI PAR QUART-HOMME VS
DISTANCE D'ACCES AU POINT DE SOUTIRAGE
MINE F

TYPE DE CONTRAT: 3 (DEBLAYAGE)



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.59

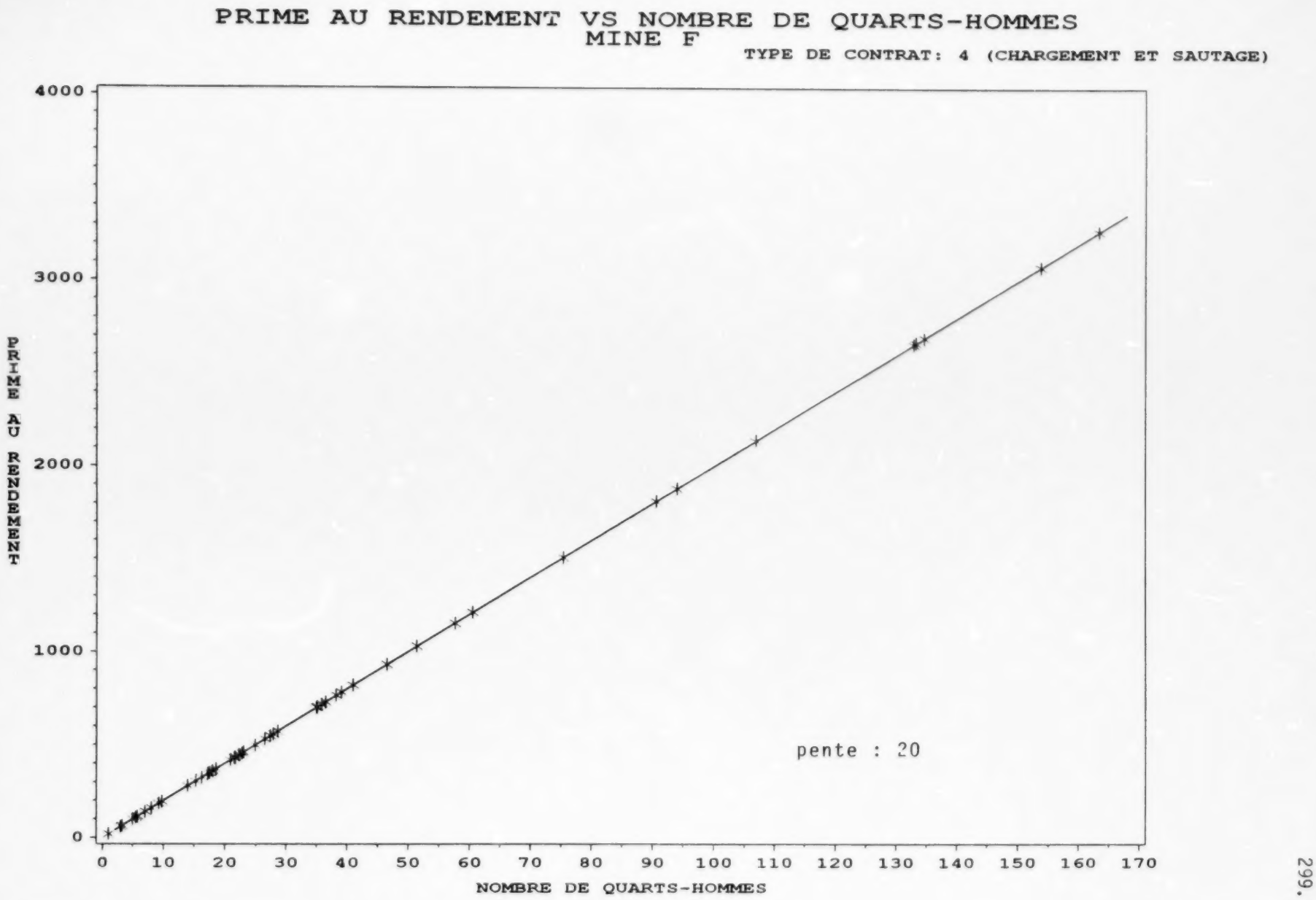
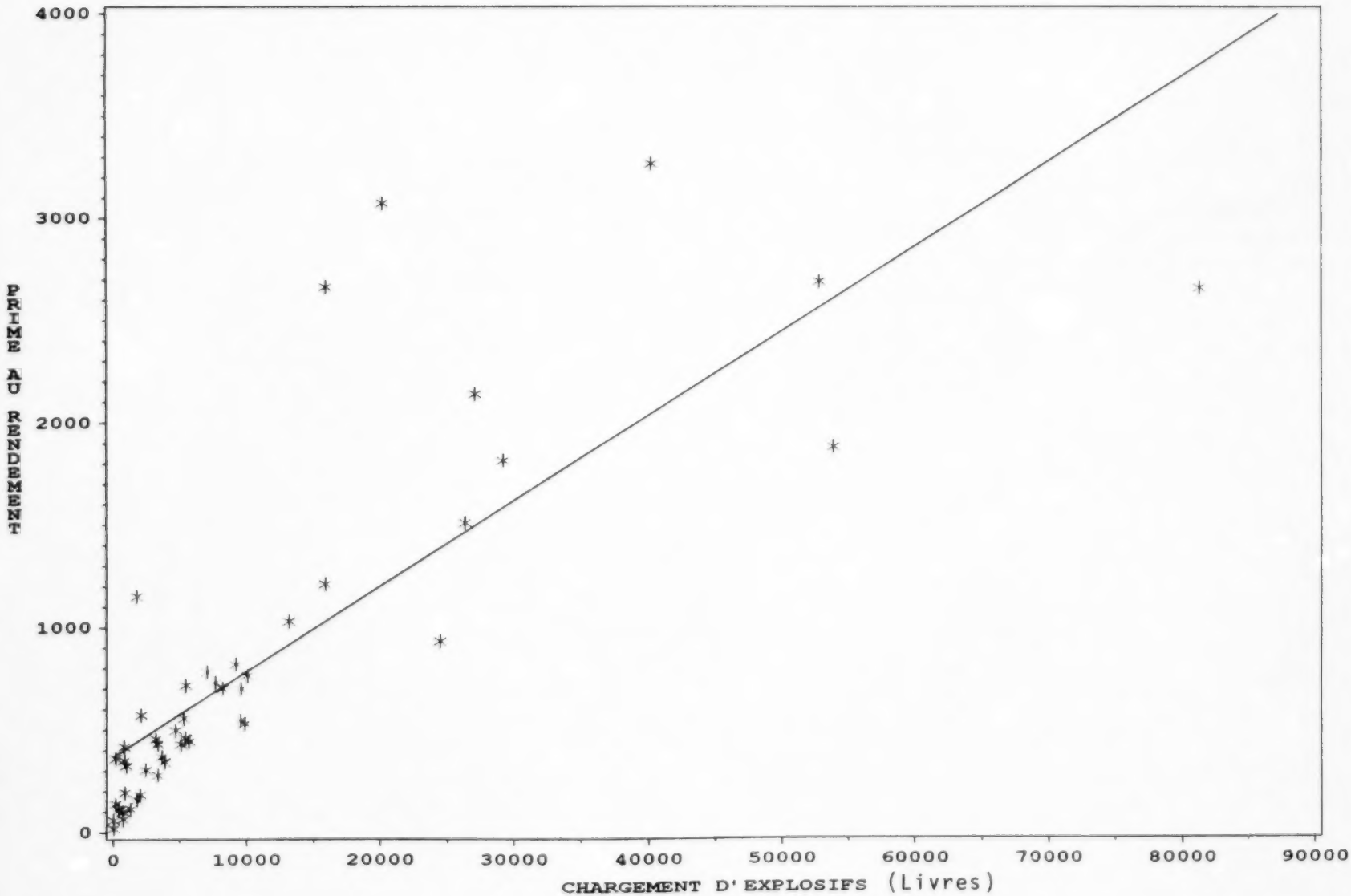

PRIME AU RENDEMENT VS NOMBRE DE QUARTS-HOMMES
MINE F
TYPE DE CONTRAT: 4 (CHARGEMENT ET SAUTAGE)
PRIME AU RENDEMENT
4000
3000
2000
1000
0
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170
NOMBRE DE QUARTS-HOMMES
pente : 20
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.60

PRIME AU RENDEMENT VS CHARGEMENT D'EXPLOSIFS
MINE F

TYPE DE CONTRAT: 4 (CHARGEMENT ET SAUTAGE)

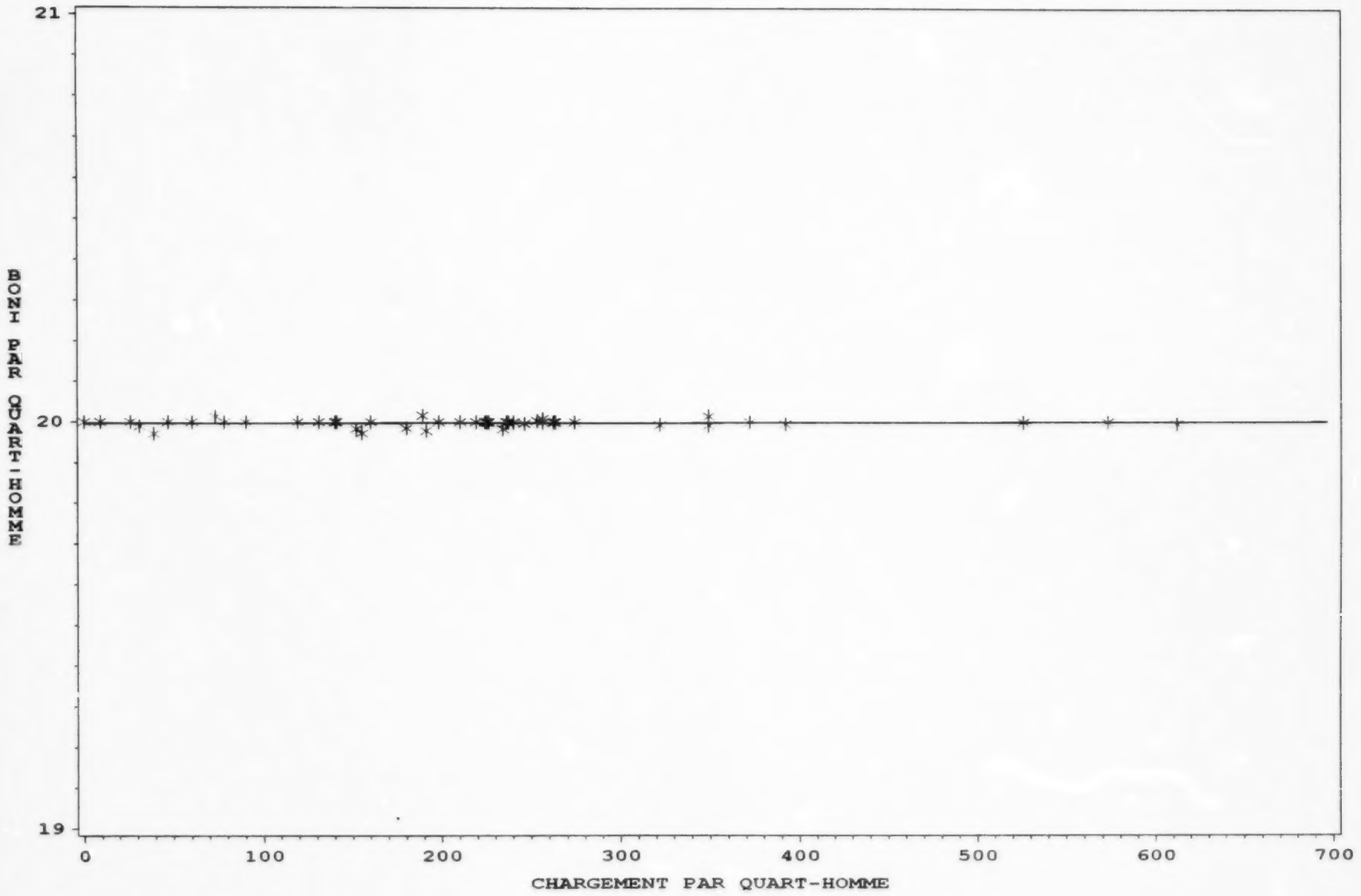


FICHIER DES TRAVAILLEURS REGROUPES

Figure F.61

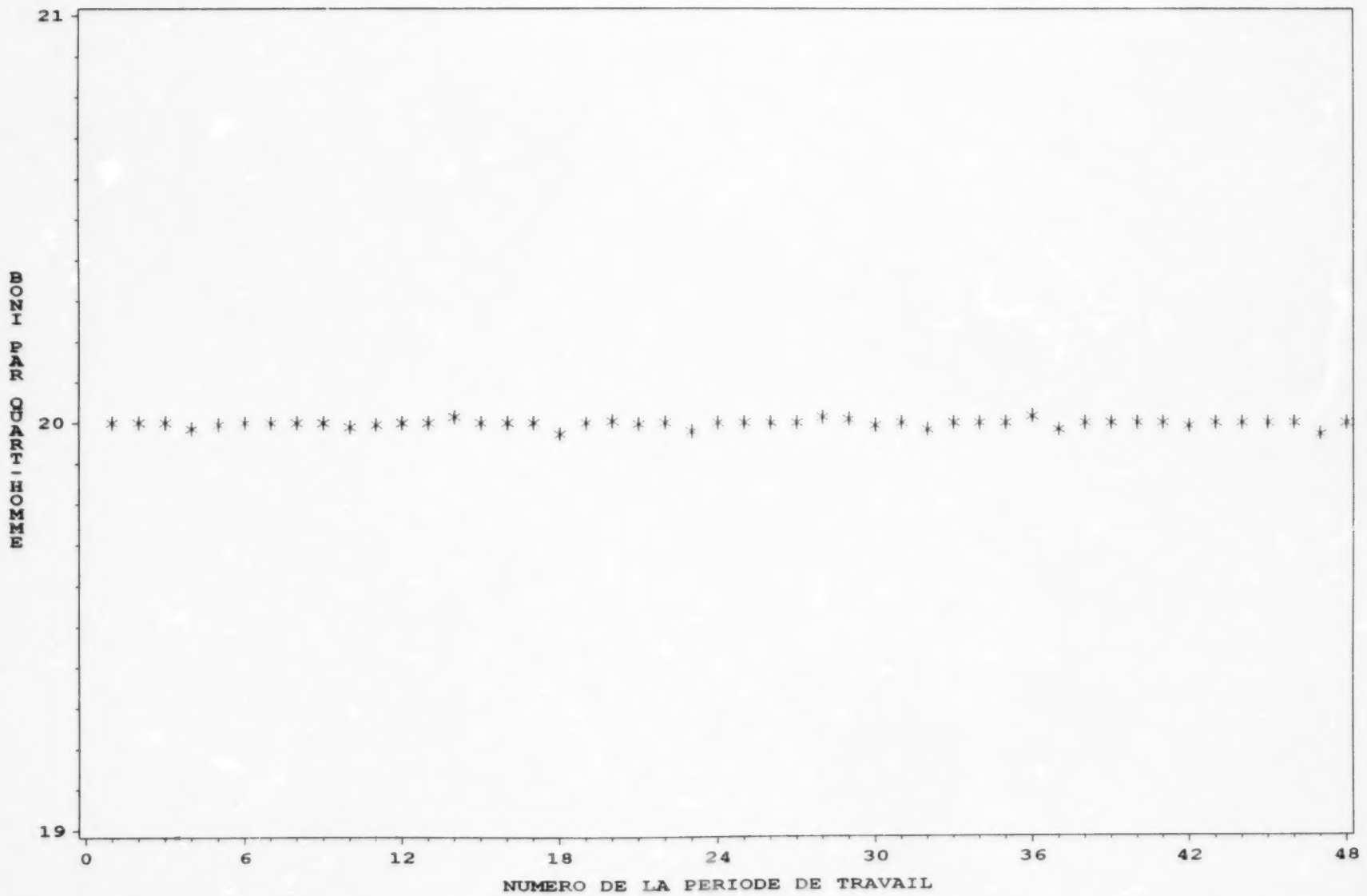
BONI PAR QUART-HOMME VS CHARGEMENT PAR QUART-HOMME
MINE F

TYPE DE CONTRAT: 4 (CHARGEMENT ET SAUTAGE)



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.62

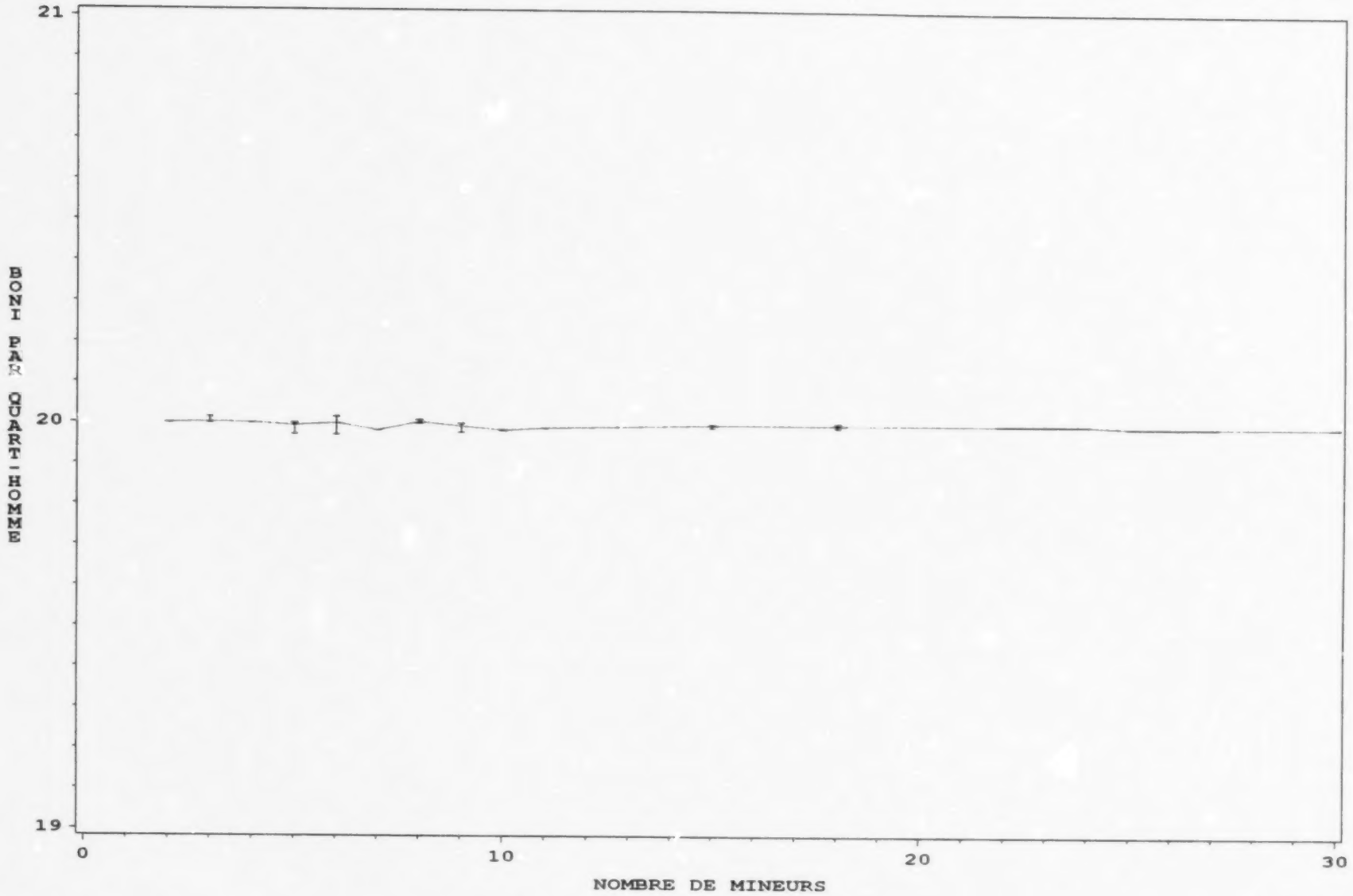


FICHIER DES TRAVAILLEURS REGROUPES

Figure F.63

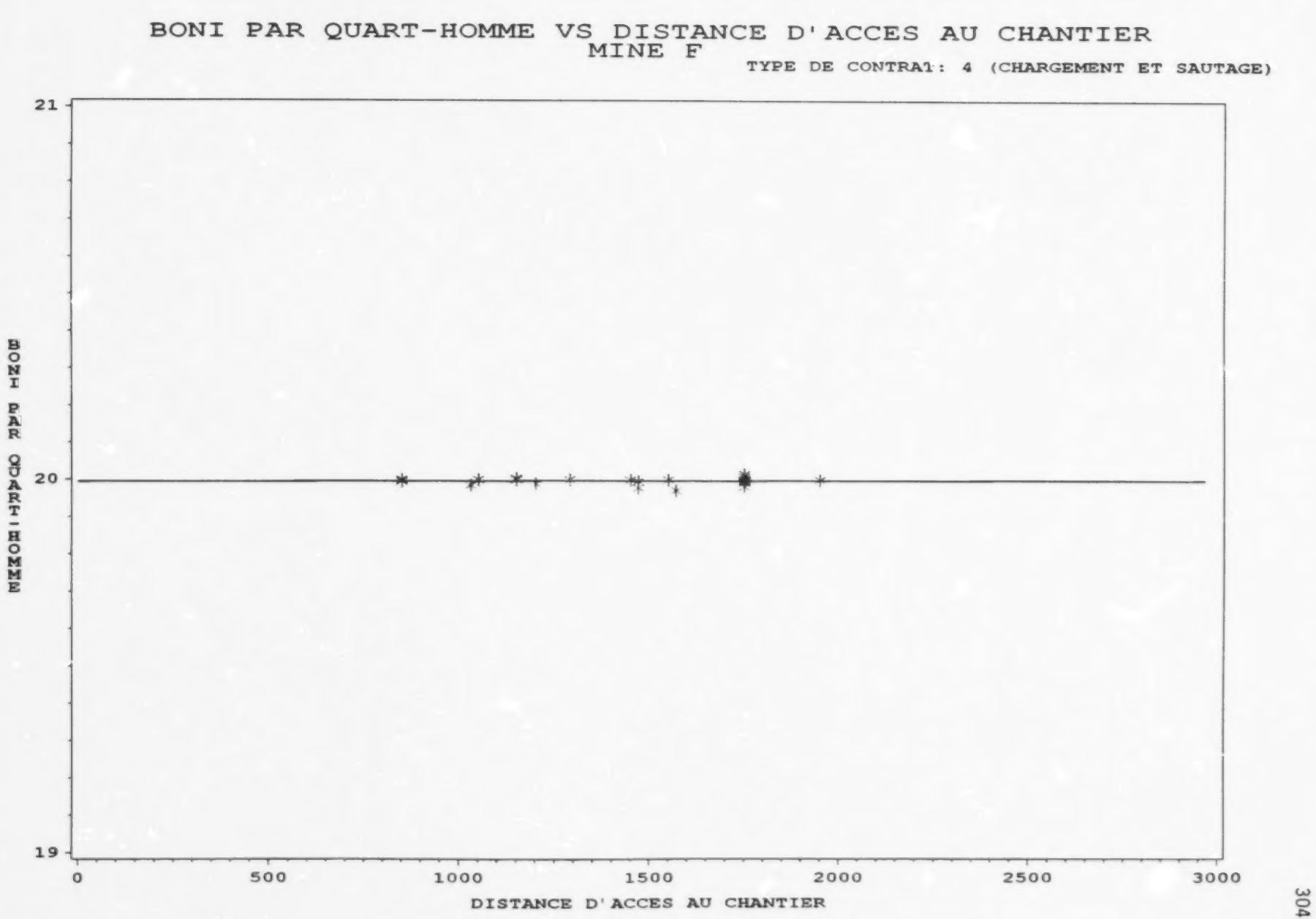
BONI PAR QUART-HOMME VS NOMBRE DE MINEURS
MINE F

TYPE DE CONTRAT: 4 (CHARGEMENT ET SAUTAGE)



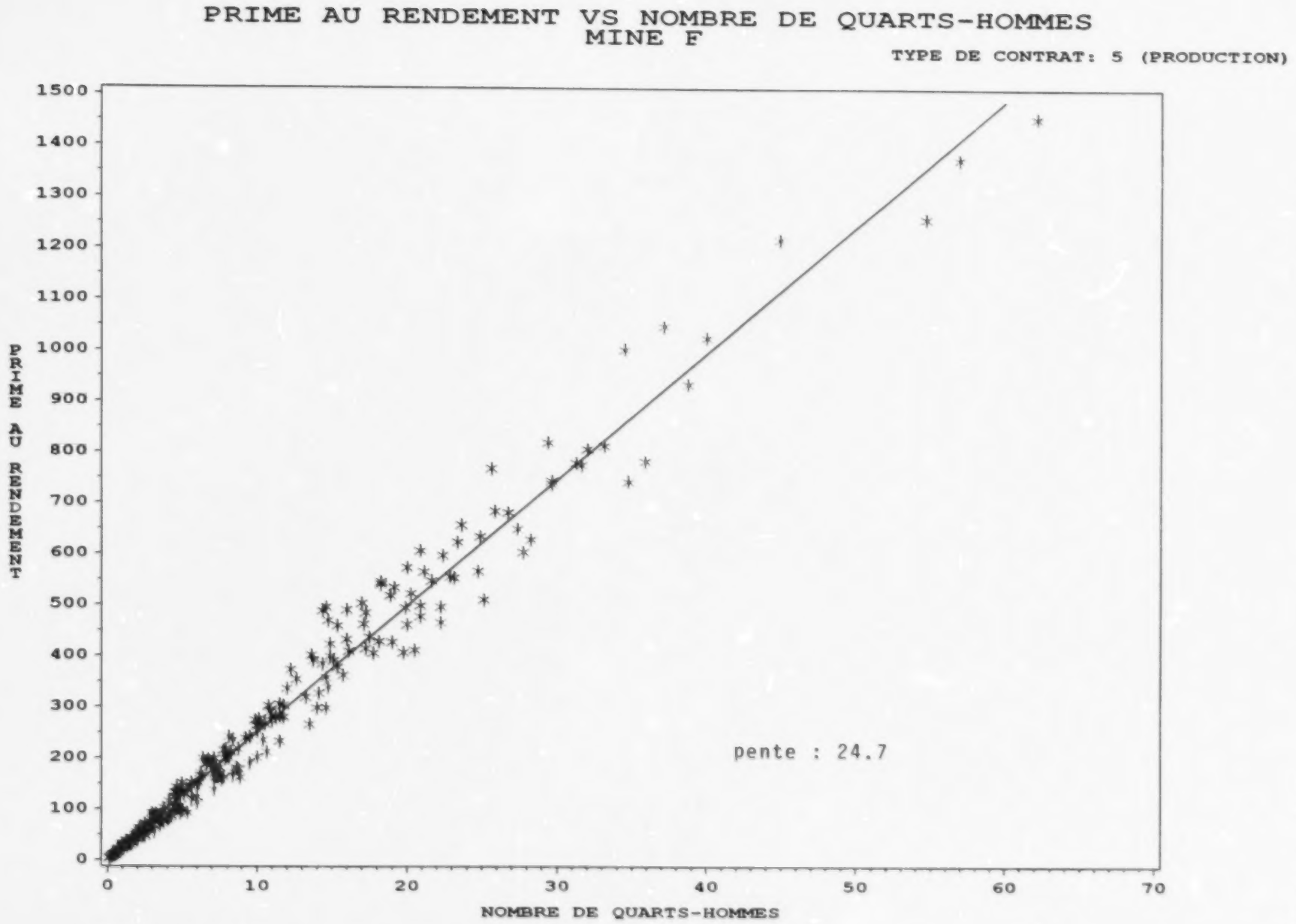
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.64



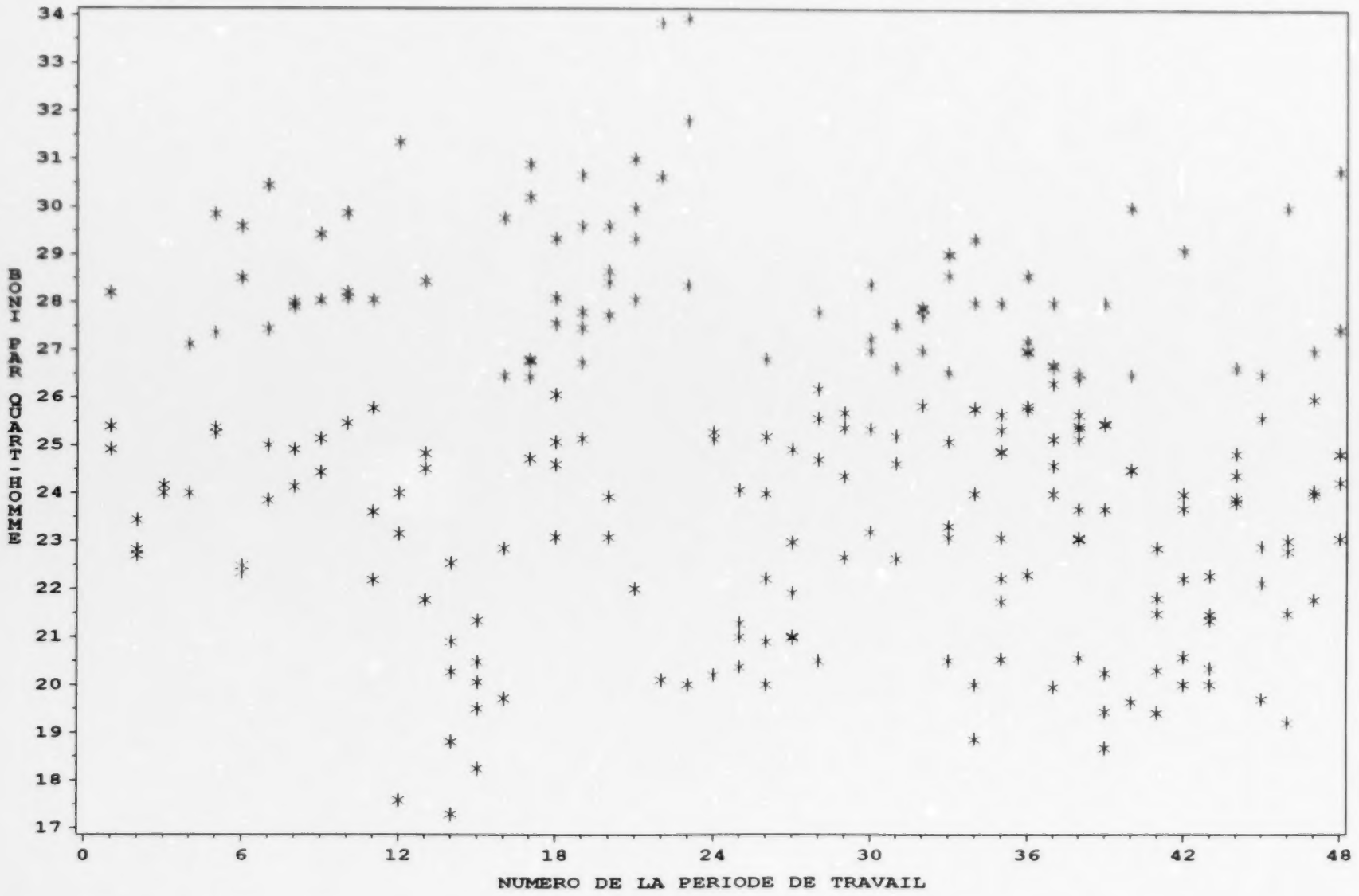
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.65



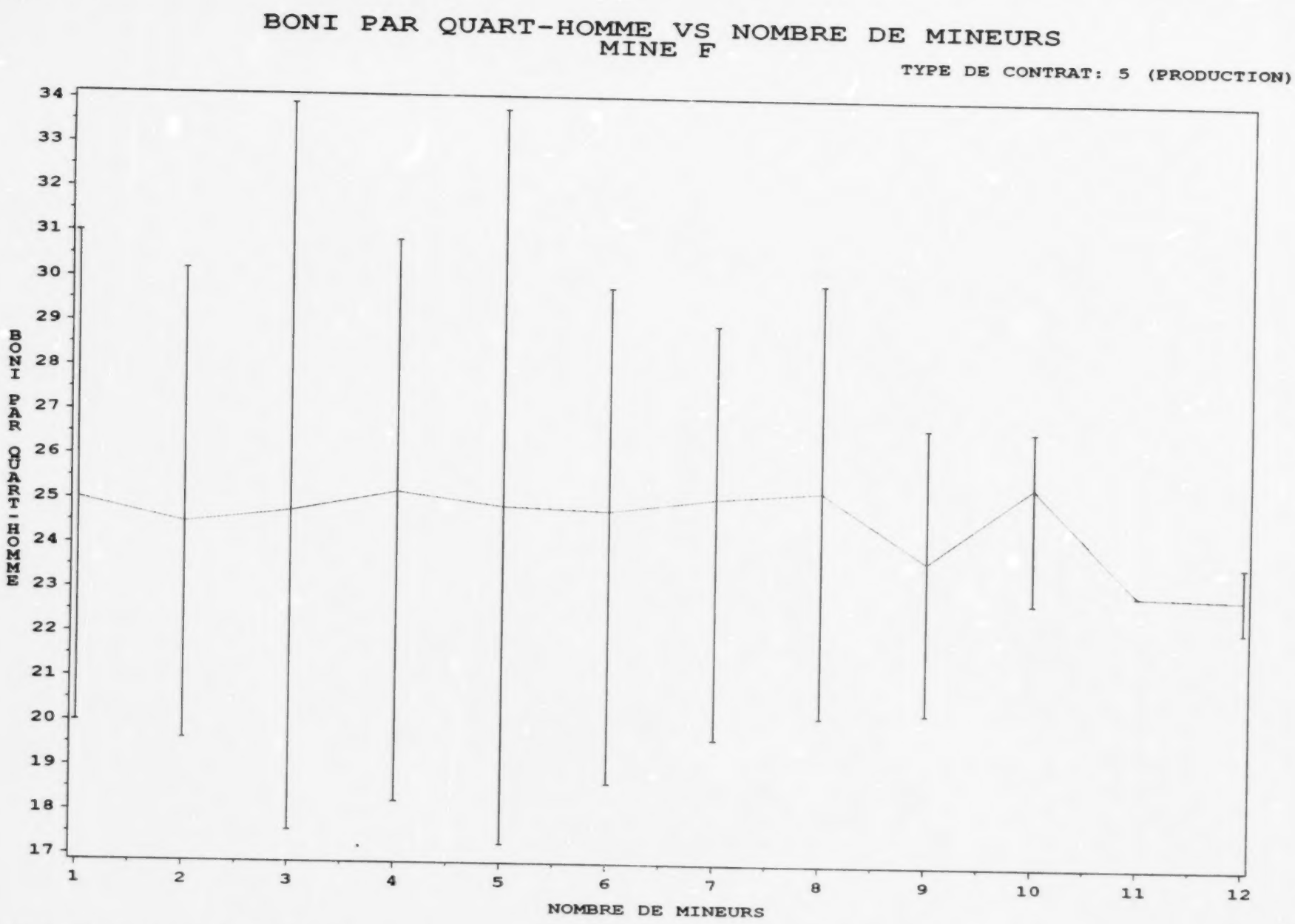
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.66



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.67

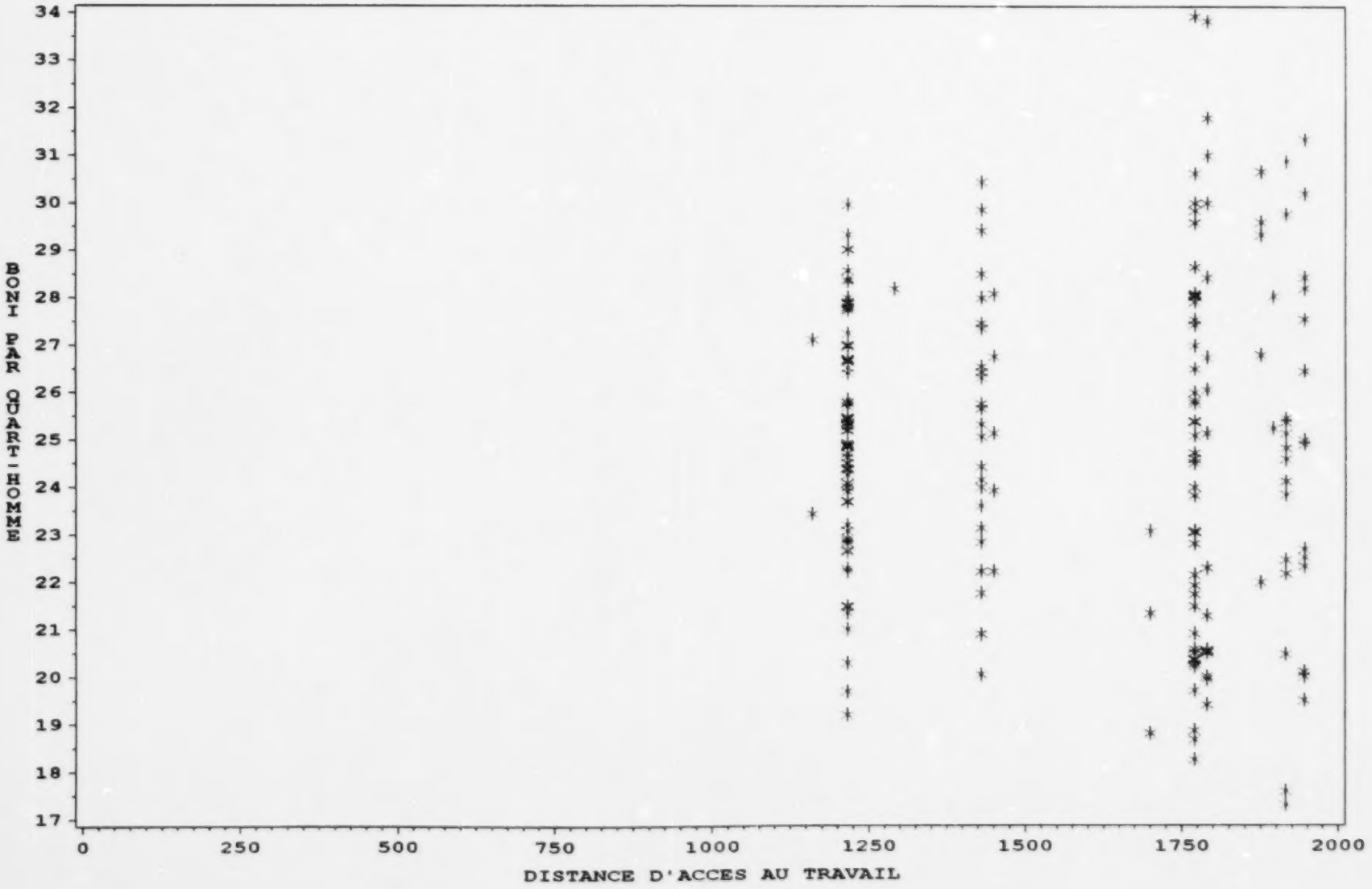


FICHIER DES TRAVAILLEURS REGROUPES

Figure F.68

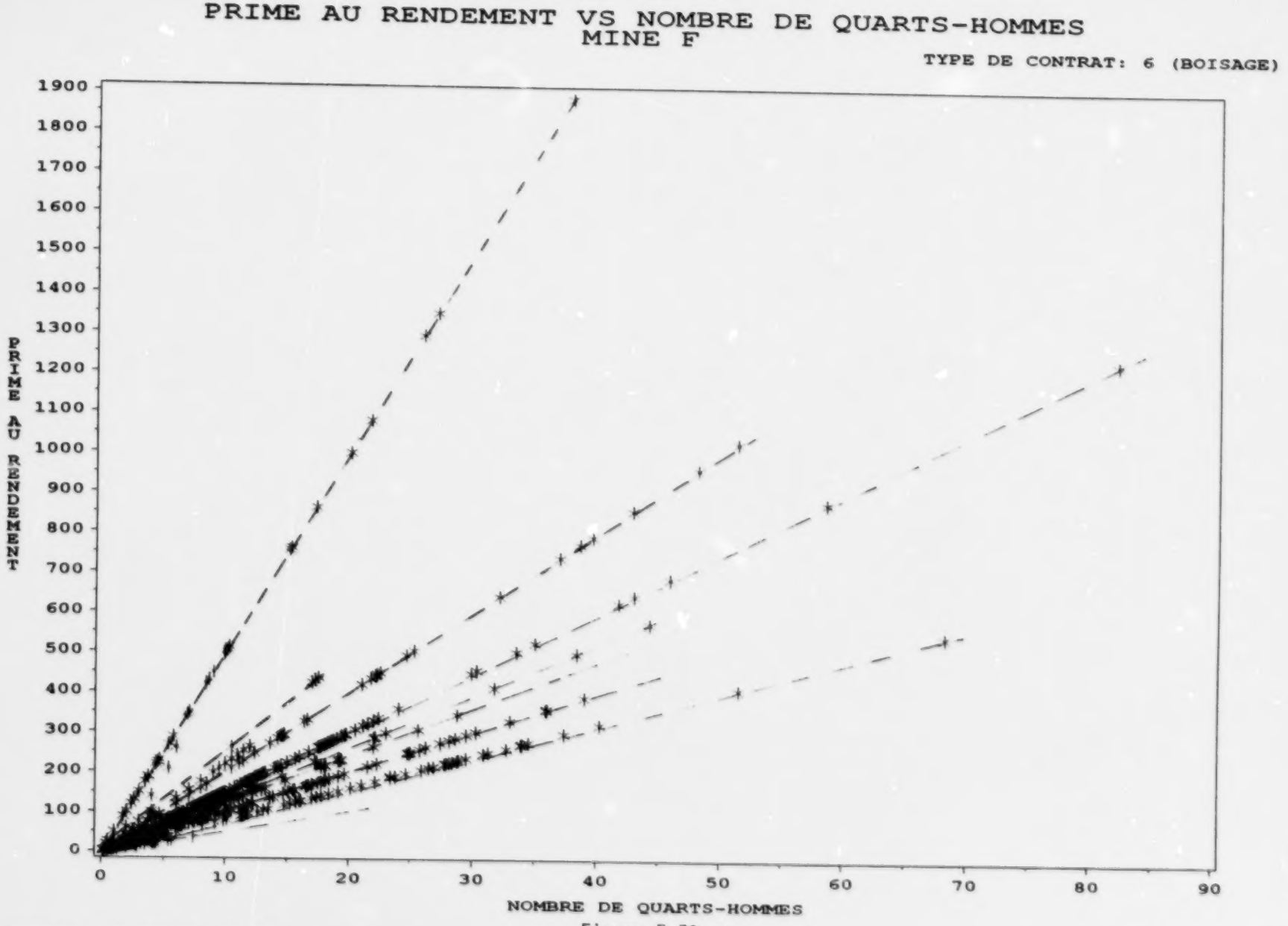
BONI PAR QUART-HOMME VS
DISTANCE D'ACCES AU POINT DE TRAVAIL
MINE F

TYPE DE CONTRAT: 5 (PRODUCTION)



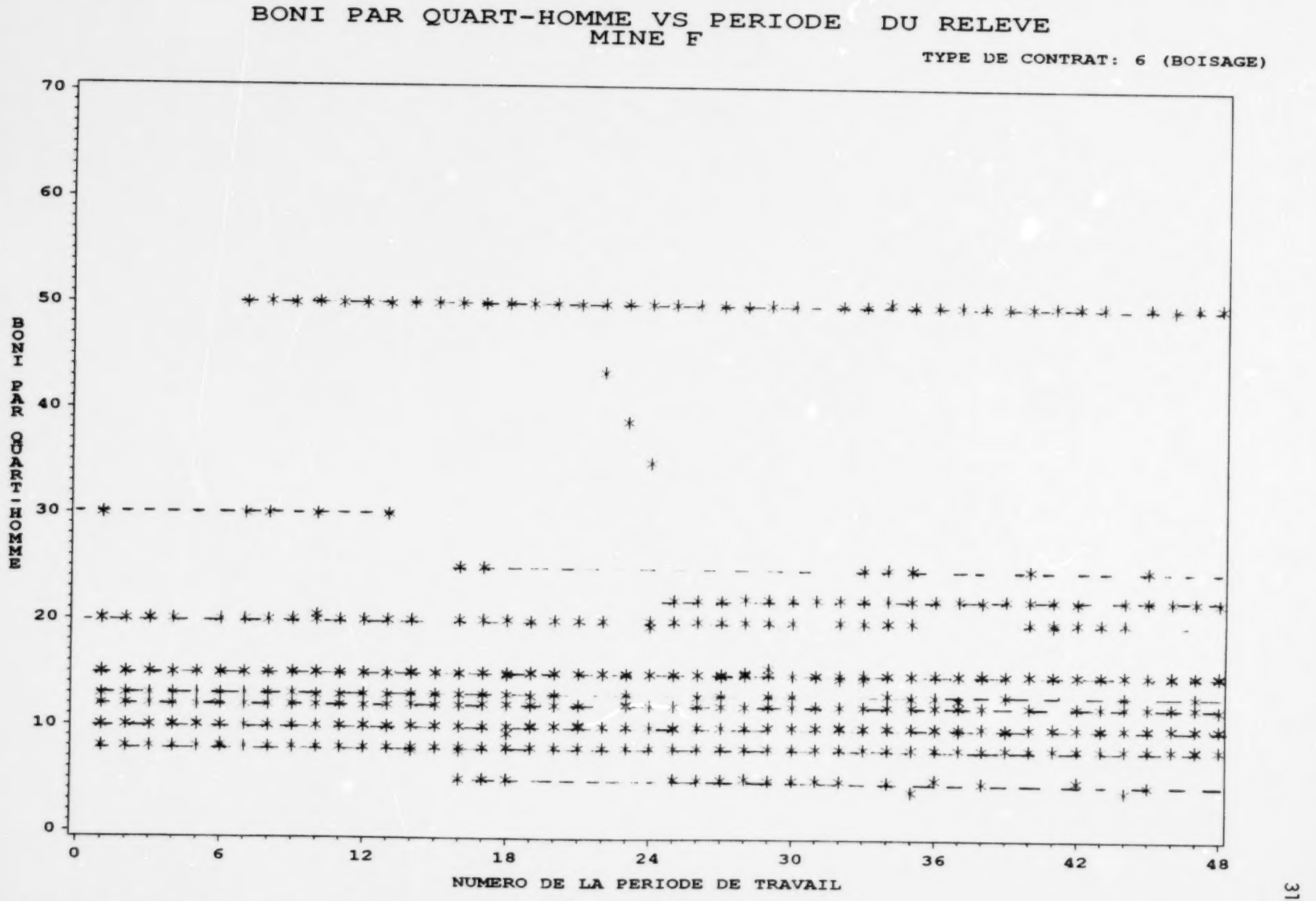
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.69



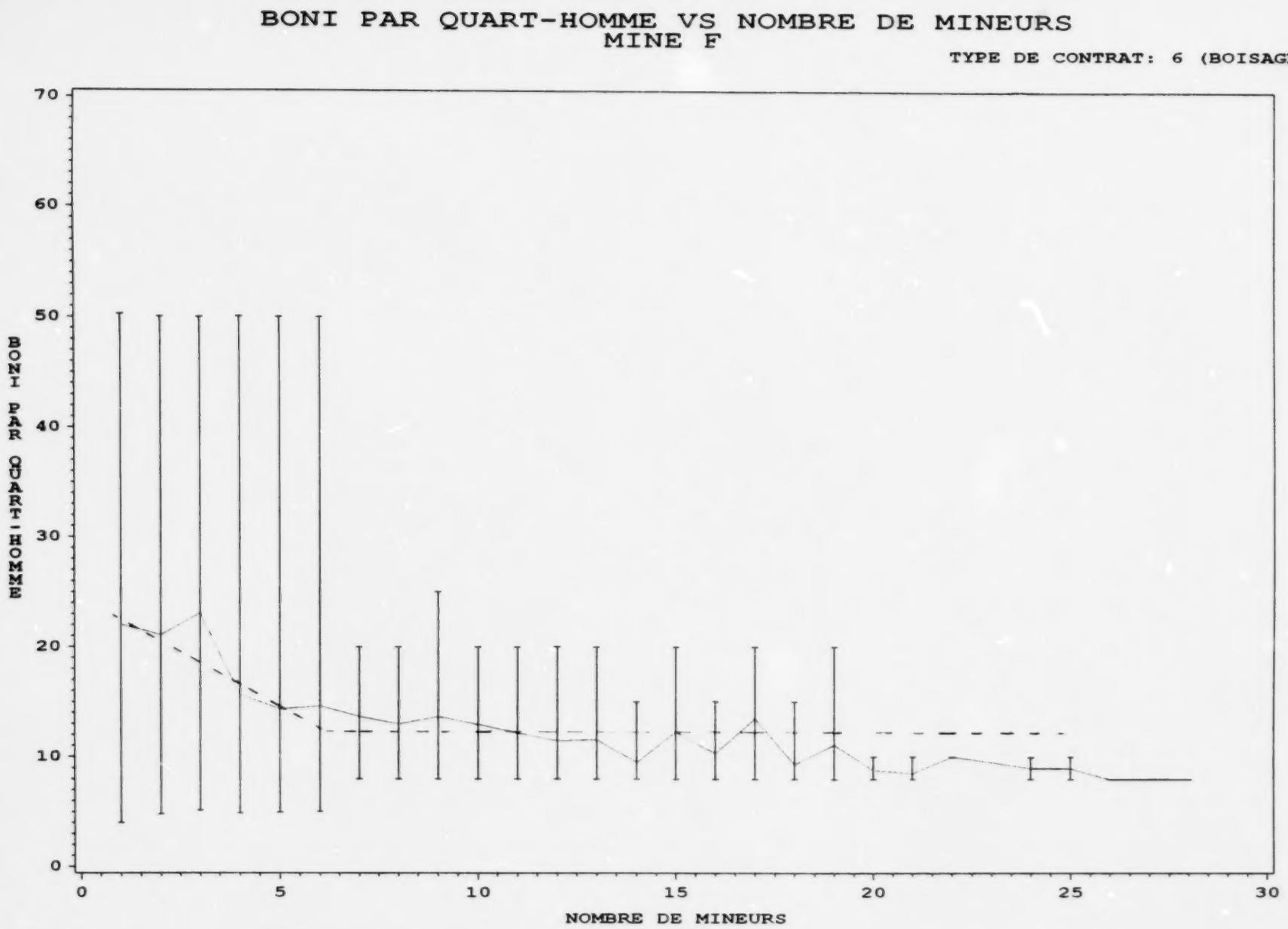
FICHIER DES TRAVAILLEURS REGROUPES

Figure F.70



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.71

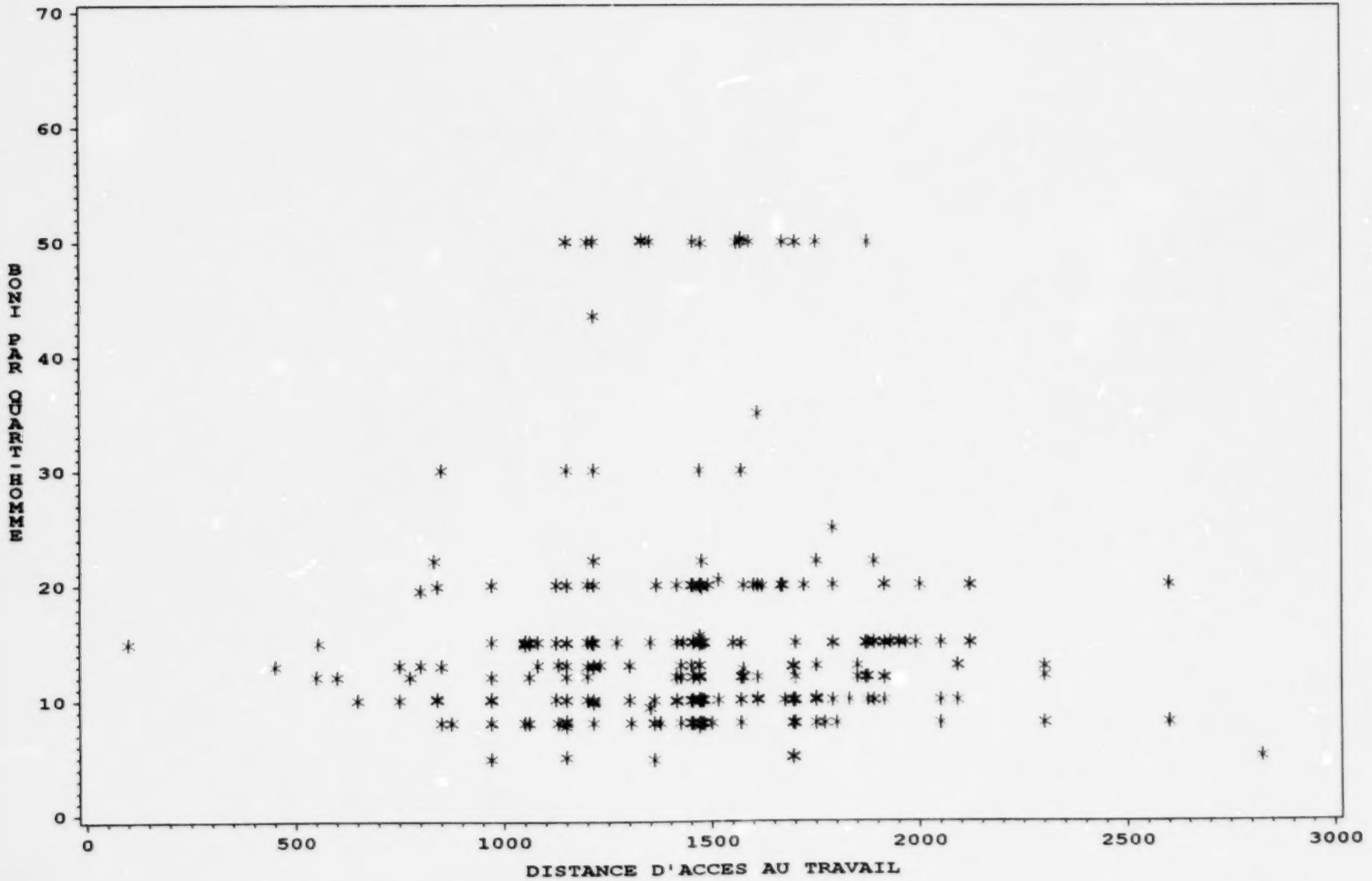


FICHIER DES TRAVAILLEURS REGROUPES

Figure F.72

BONI PAR QUART-HOMME VS
DISTANCE D'ACCES AU POINT DE TRAVAIL
MINE F

TYPE DE CONTRAT: 6 (BOISAGE)



FICHIER DES TRAVAILLEURS REGROUPES

Figure F.73

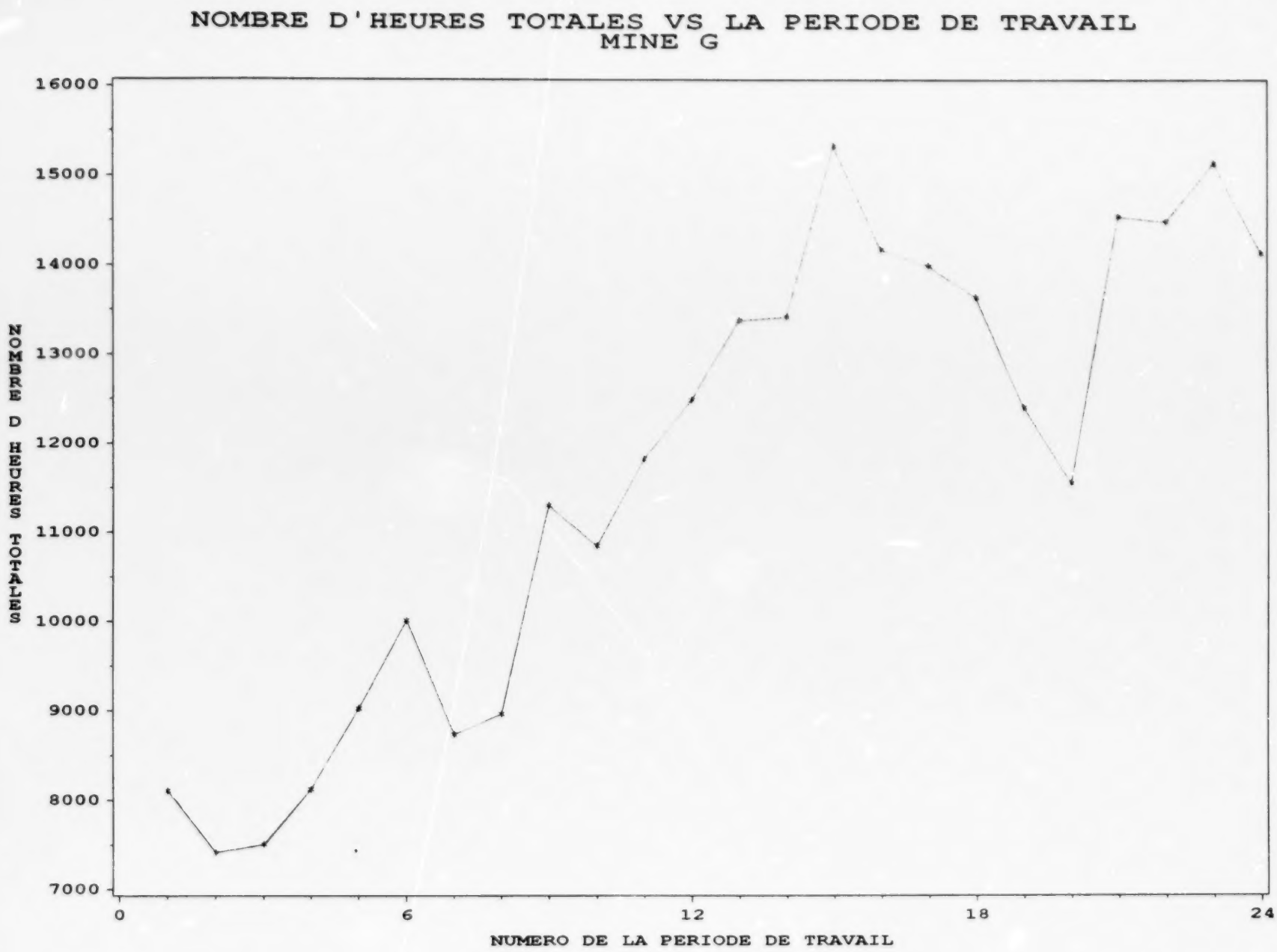

NOMBRE D'HEURES TOTALES VS LA PERIODE DE TRAVAIL
MINE G
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
NOMBRE D HEURES TOTALES
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL

Figure G.1

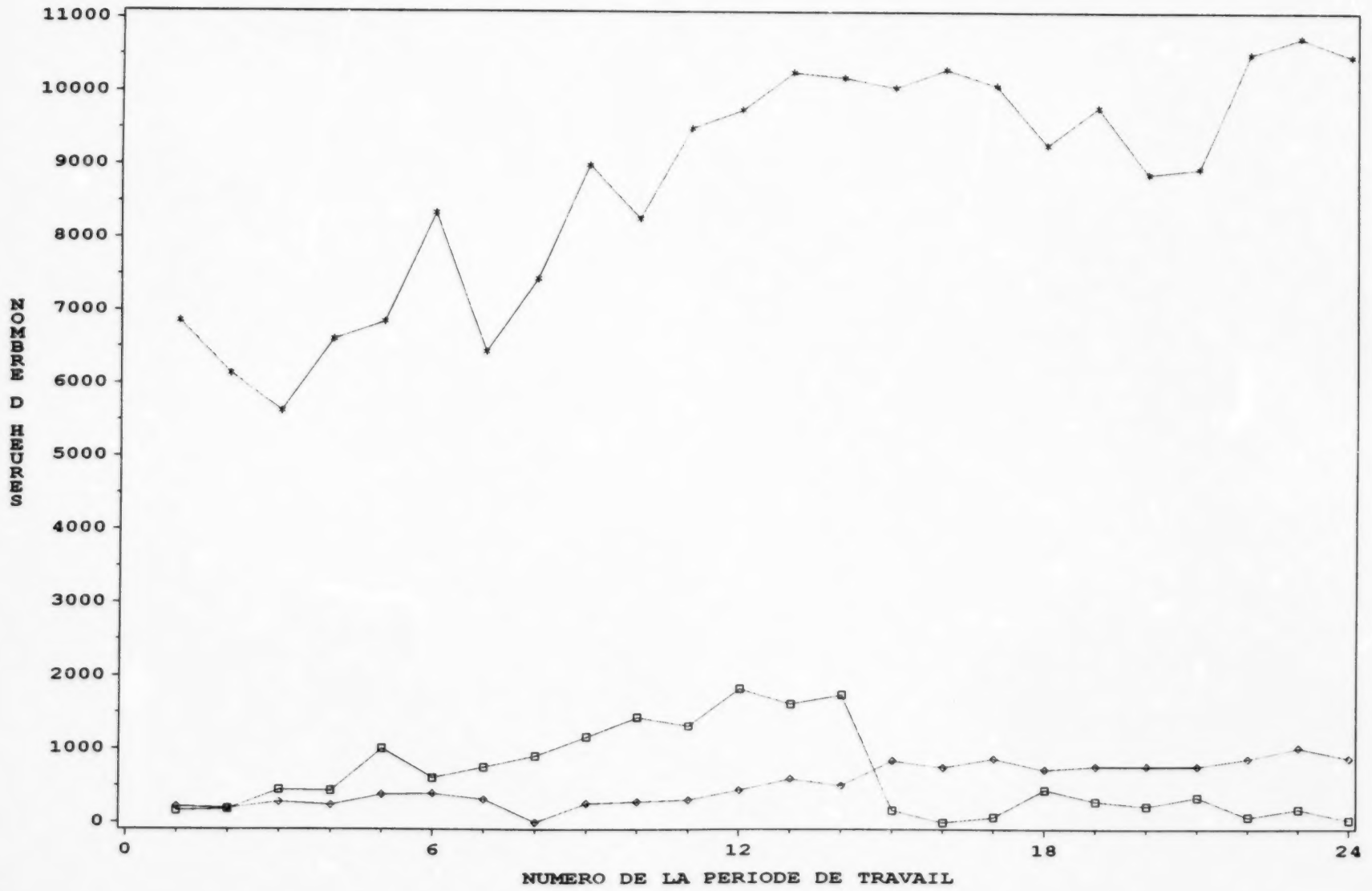

NOMBRE D'HEURES VS LA PERIODE DE TRAVAIL
MINE G
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
NOMBRE D HEURES
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL
ETOILE: HEURES R
CARRE: HEURES S
LOSANGE: HEURES X

Figure G.2

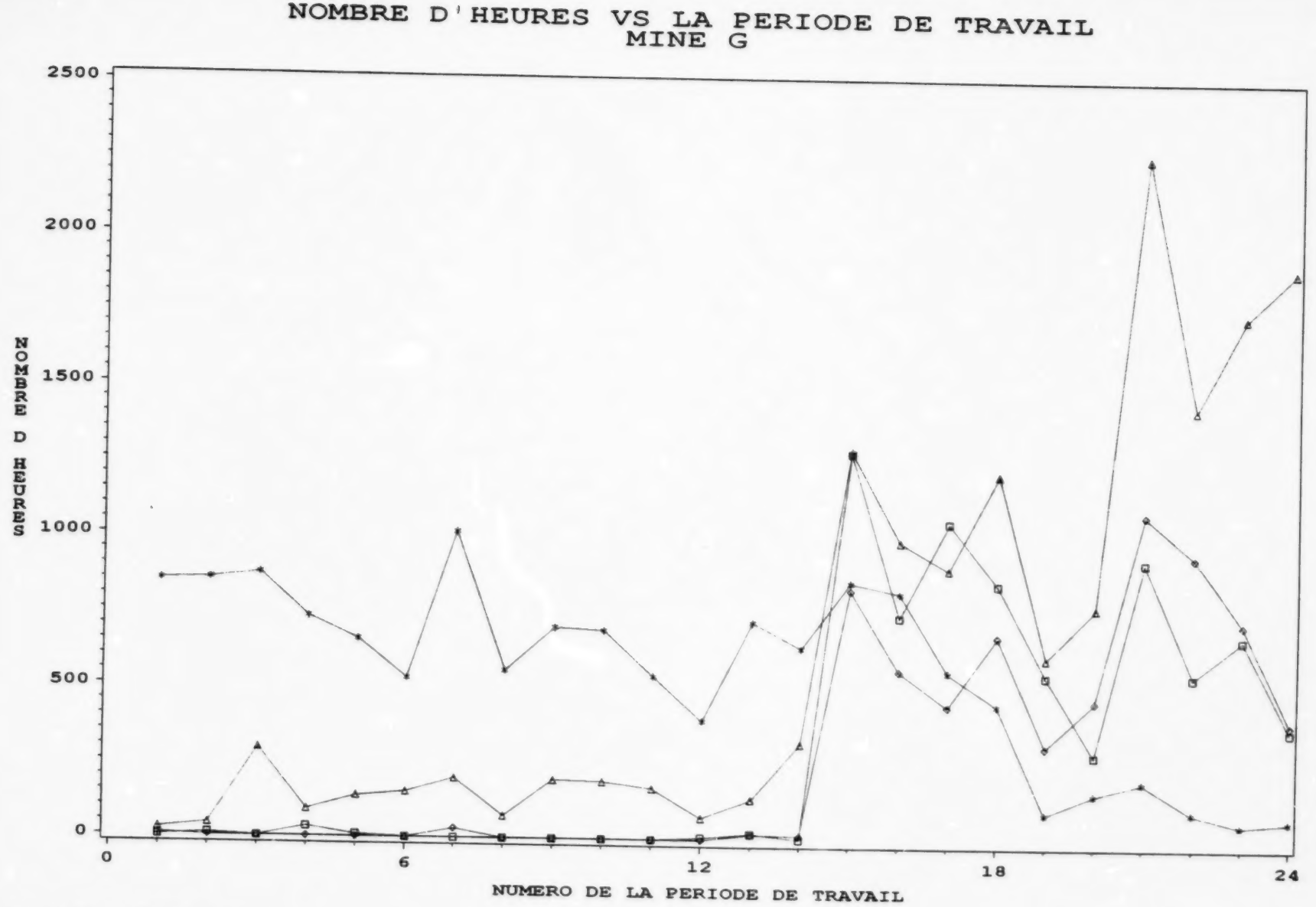
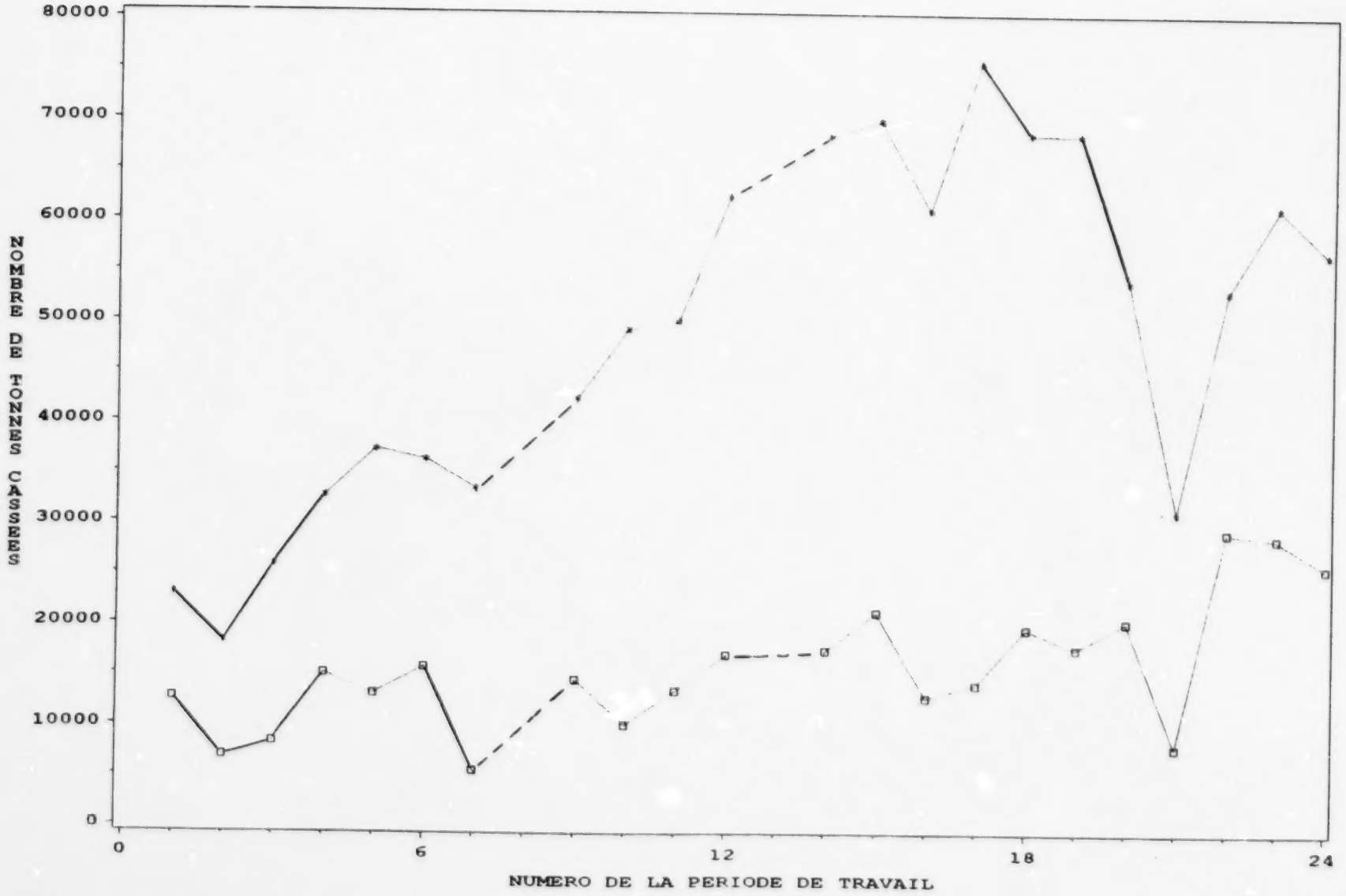

NOMBRE D'HEURES VS LA PERIODE DE TRAVAIL
MINE G
NOMBRE D HEURES
2500
2000
1500
1000
500
0
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL
ETOILE: HEURES A
CARRE: HEURES B
LOSANGE: HEURES C
TRIANGLE: HEURES D

Figure G.3

NOMBRE DE TONNES CASSEES VS LA PERIODE DE TRAVAIL
MINE G



ETOILE: MINERAI
CARRE: STERILE

Figure G.4

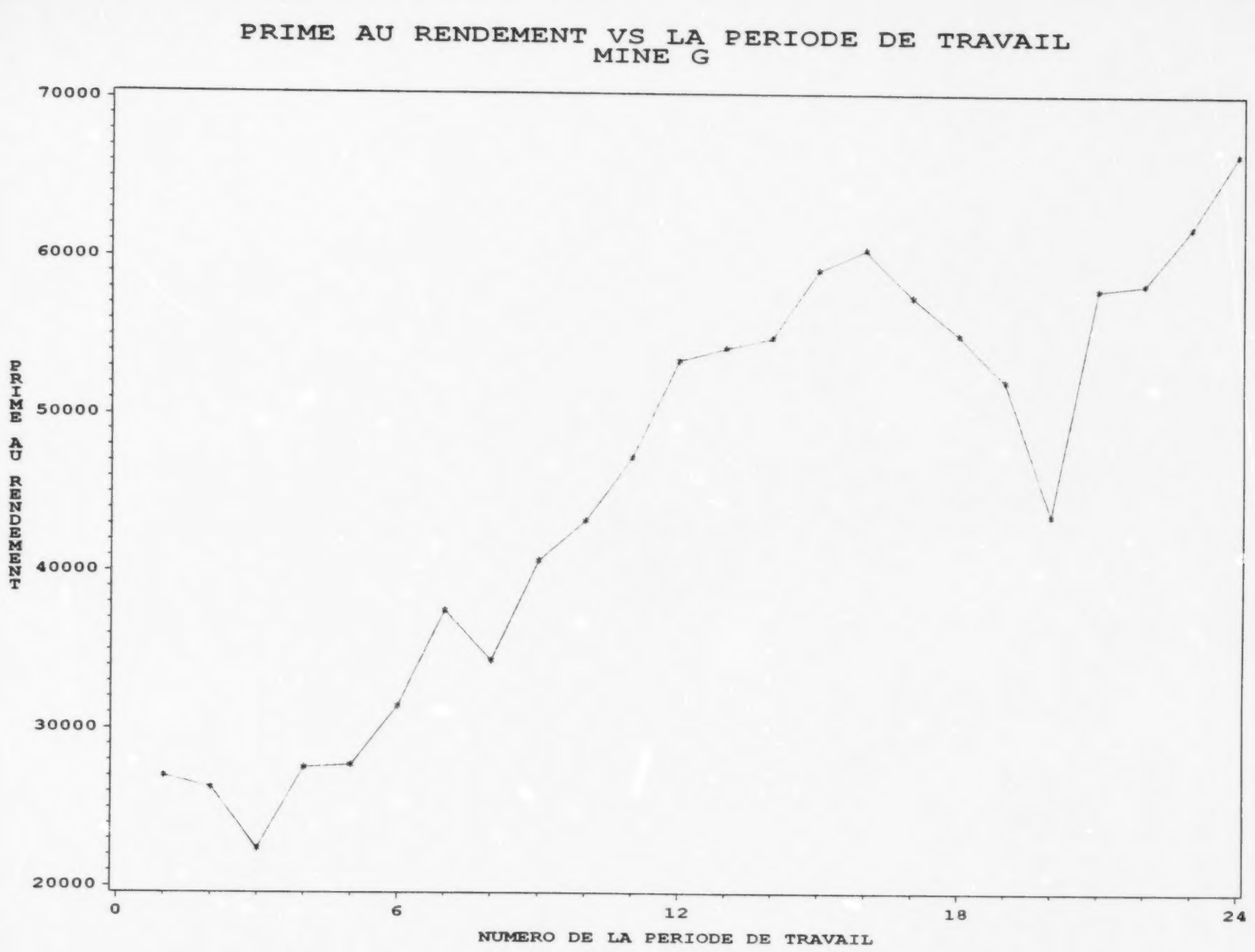

PRIME AU RENDEMENT VS LA PERIODE DE TRAVAIL
MINE G
70000
60000
50000
40000
30000
20000
PRIME AU RENDEMENT
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL

Figure G.5

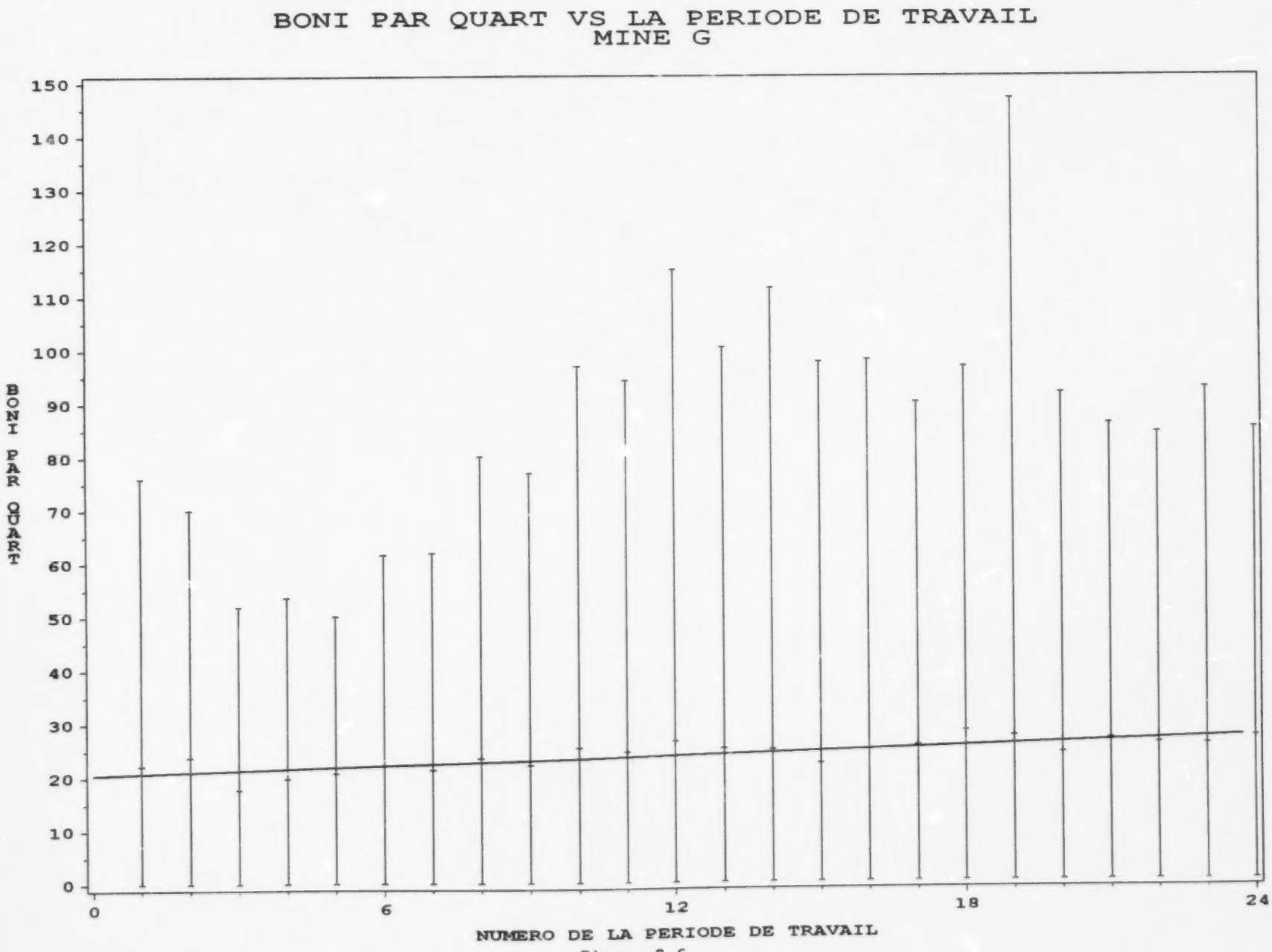

BONI PAR QUART VS LA PERIODE DE TRAVAIL
MINE G
BONI PAR QUART
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL

Figure G.6

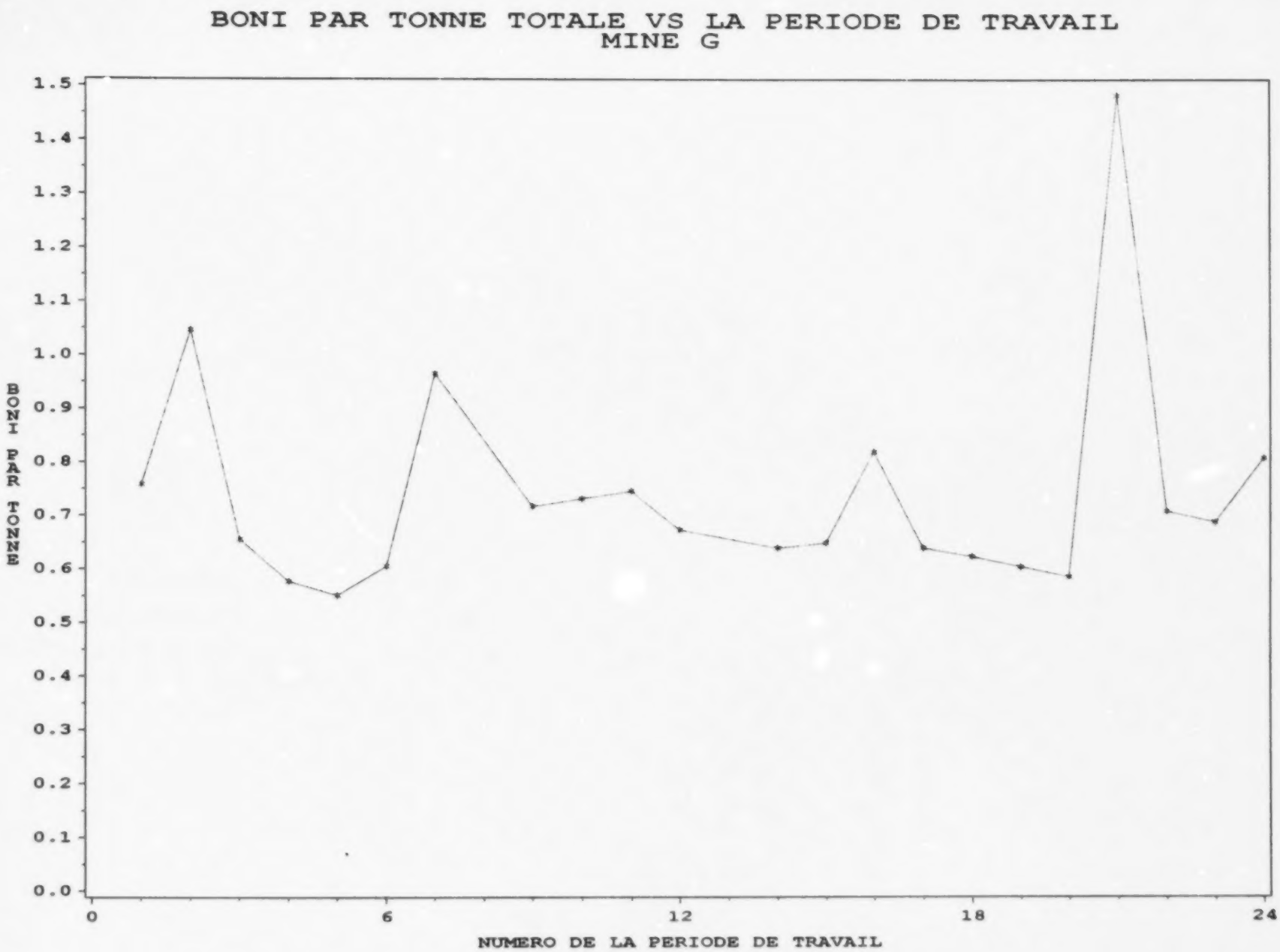

BONI PAR TONNE TOTALE VS LA PERIODE DE TRAVAIL
MINE G
BONI PAR TONNE
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL

Figure G.7

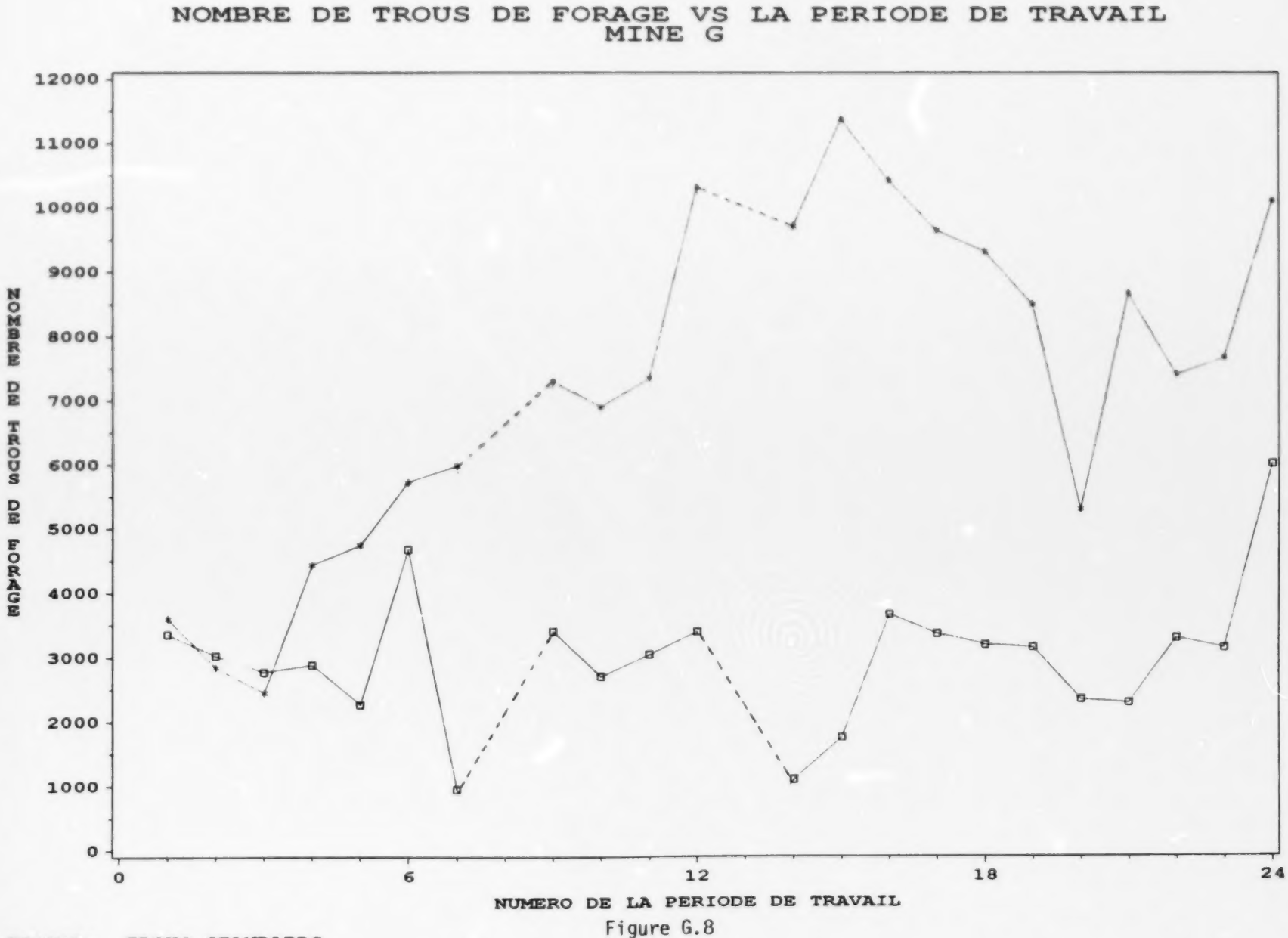


Figure G.8

ETOILE: TROUS STANDARDS
CARRE: TROUS JUMBO

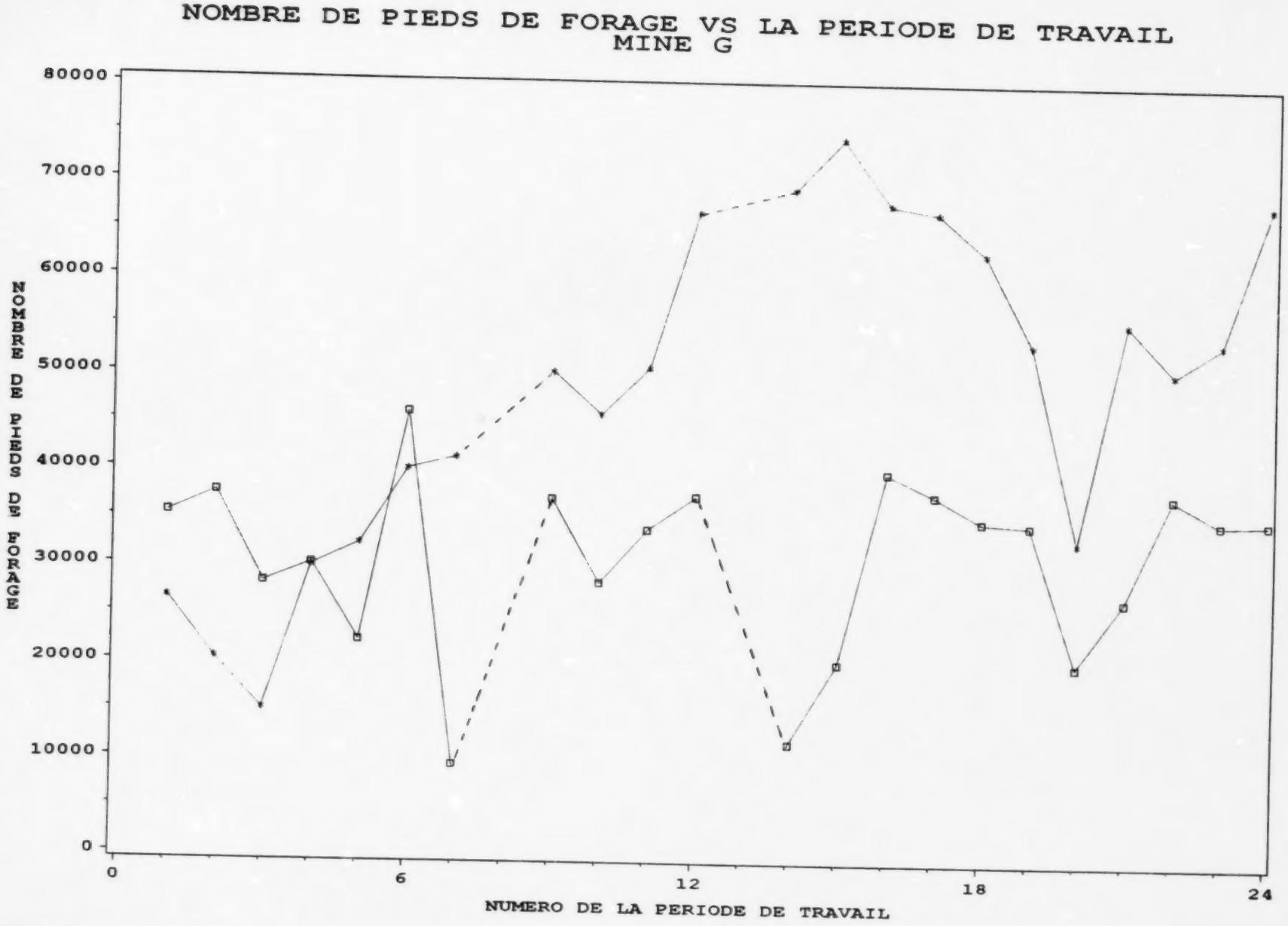
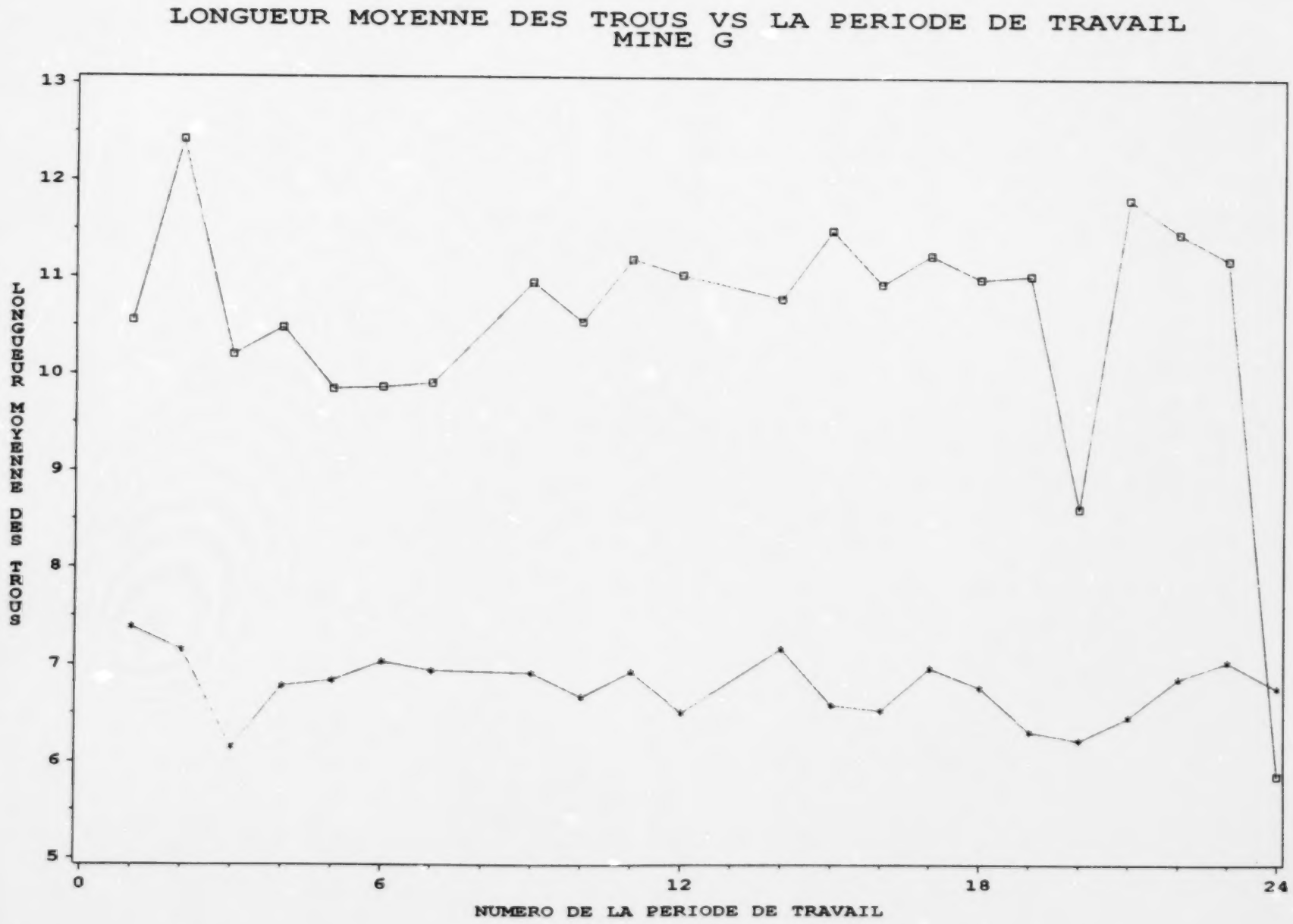

NOMBRE DE PIEDS DE FORAGE VS LA PERIODE DE TRAVAIL
MINE G
80000
70000
60000
50000
40000
30000
20000
10000
0
NOMBRE DE PIEDS DE FORAGE
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL
ETOILE: TROUS STANDARDS
CARRE: TROUS JUMBO

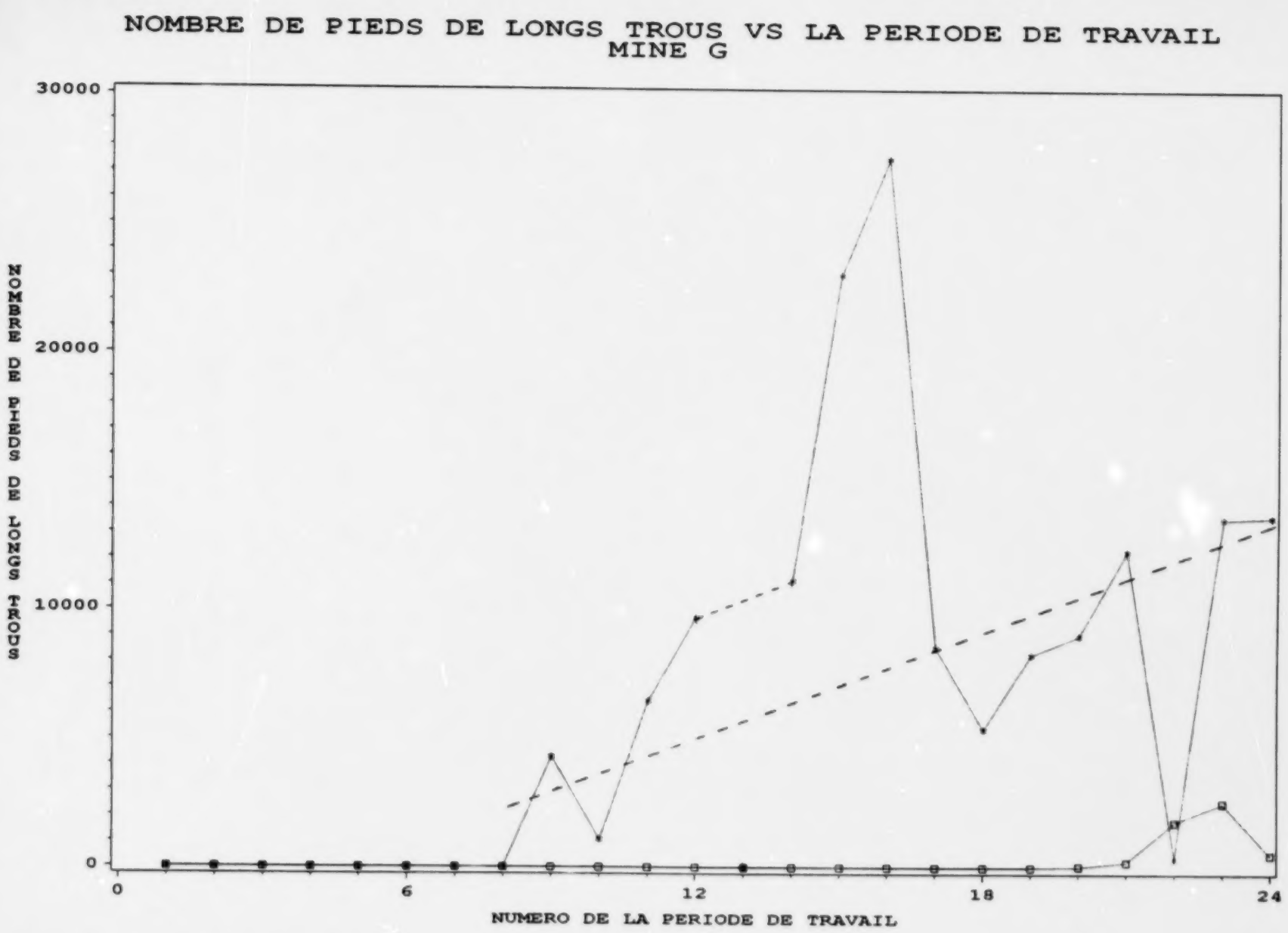
Figure G.9



ETOILE: TROUS STANDARDS
CARRE: TROUS JUMBO

Figure G.10

Longueur en pieds



ETOILE: TROUS VERS LE HAUT
CARRE: TROUS VERS LE BAS

Figure G.11

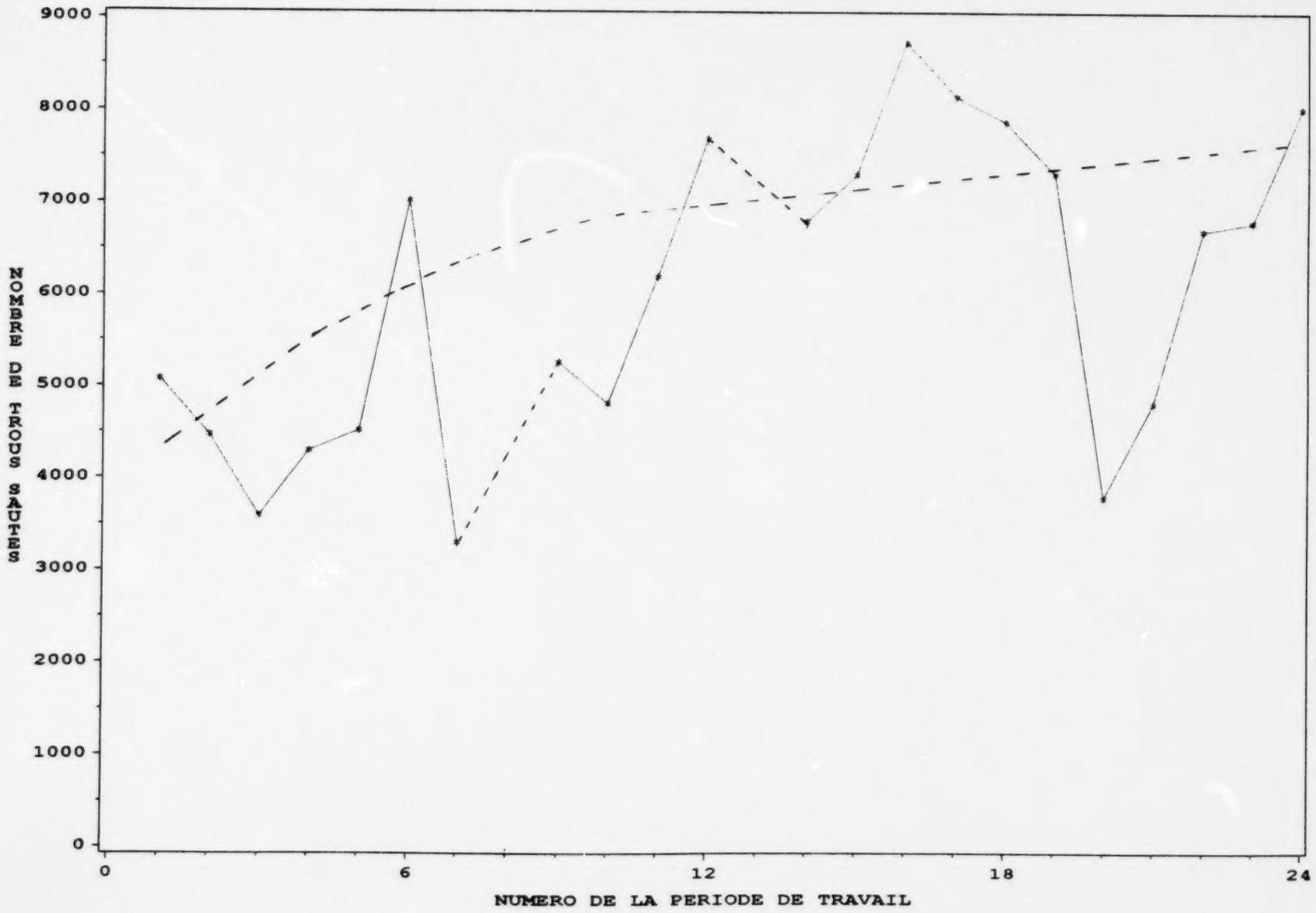

NOMBRE DE TROUS SAUTES VS LA PERIODE DE TRAVAIL
MINE G
NOMBRE DE TROUS SAUTES
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL

Figure G.12

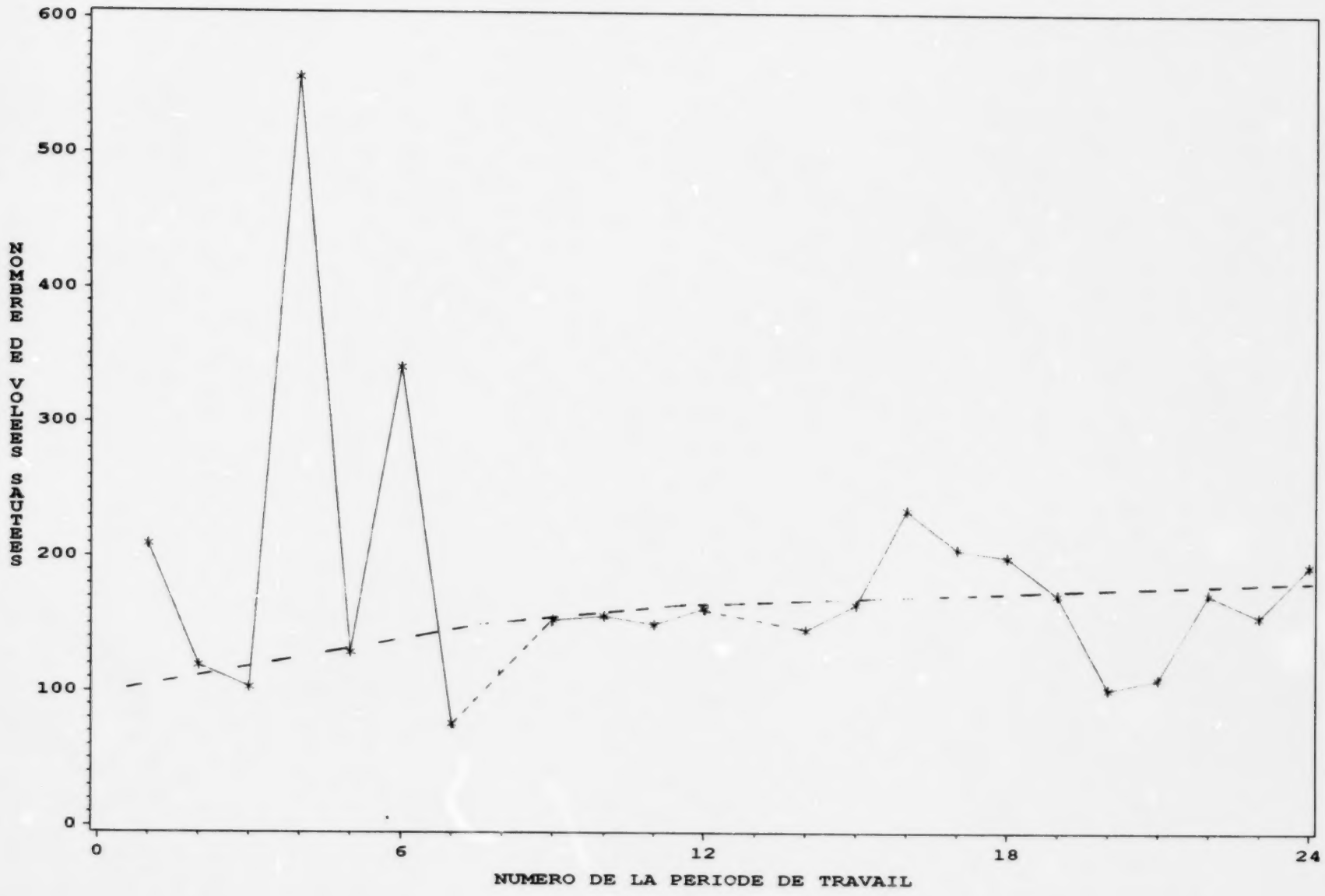

NOMBRE DE VOLEES SAUTEES VS LA PERIODE DE TRAVAIL
MINE G
NOMBRE DE VOLEES SAUTEES
600
500
400
300
200
100
0
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL

FIGURE G.13

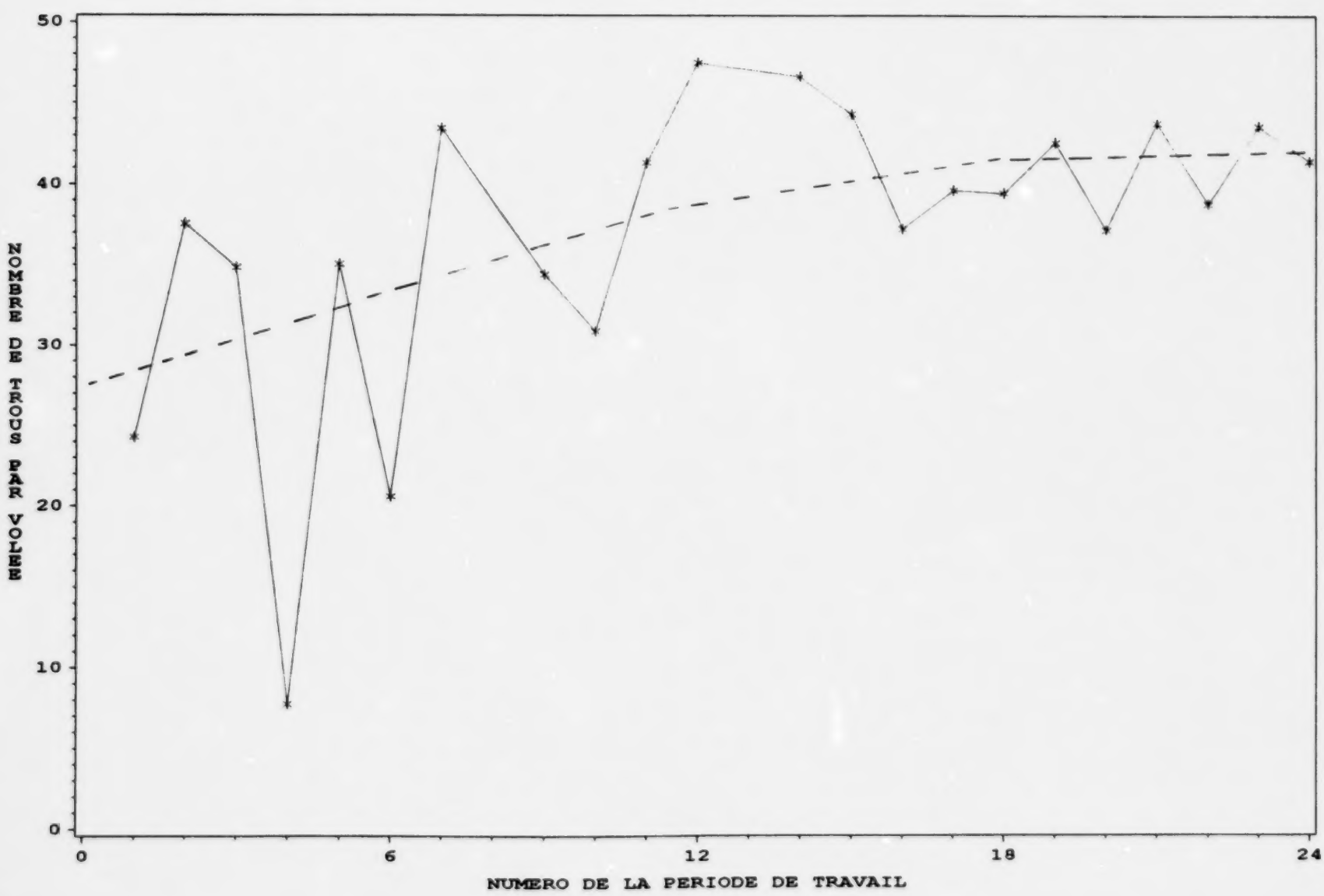

NOMBRE DE TROUS SAUTES PAR VOLEE VS LA PERIODE DE TRAVAIL
MINE G
NOMBRE DE TROUS PAR VOLEE
0
10
20
30
40
50
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL

FIGURE G.14

NOMBRE DE TROUS SAUTES VS LE NOMBRE DE VOLEES
MINE G

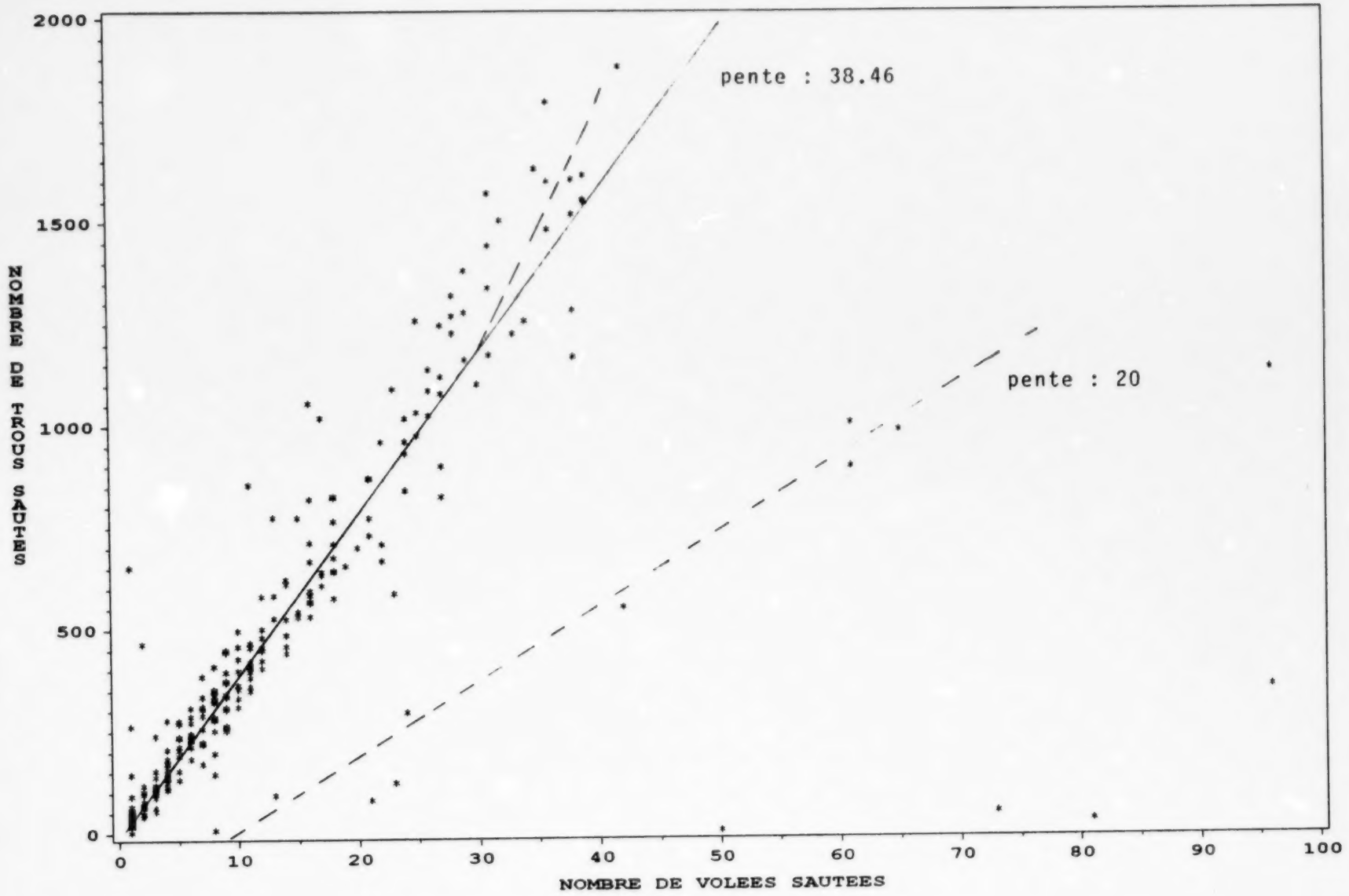
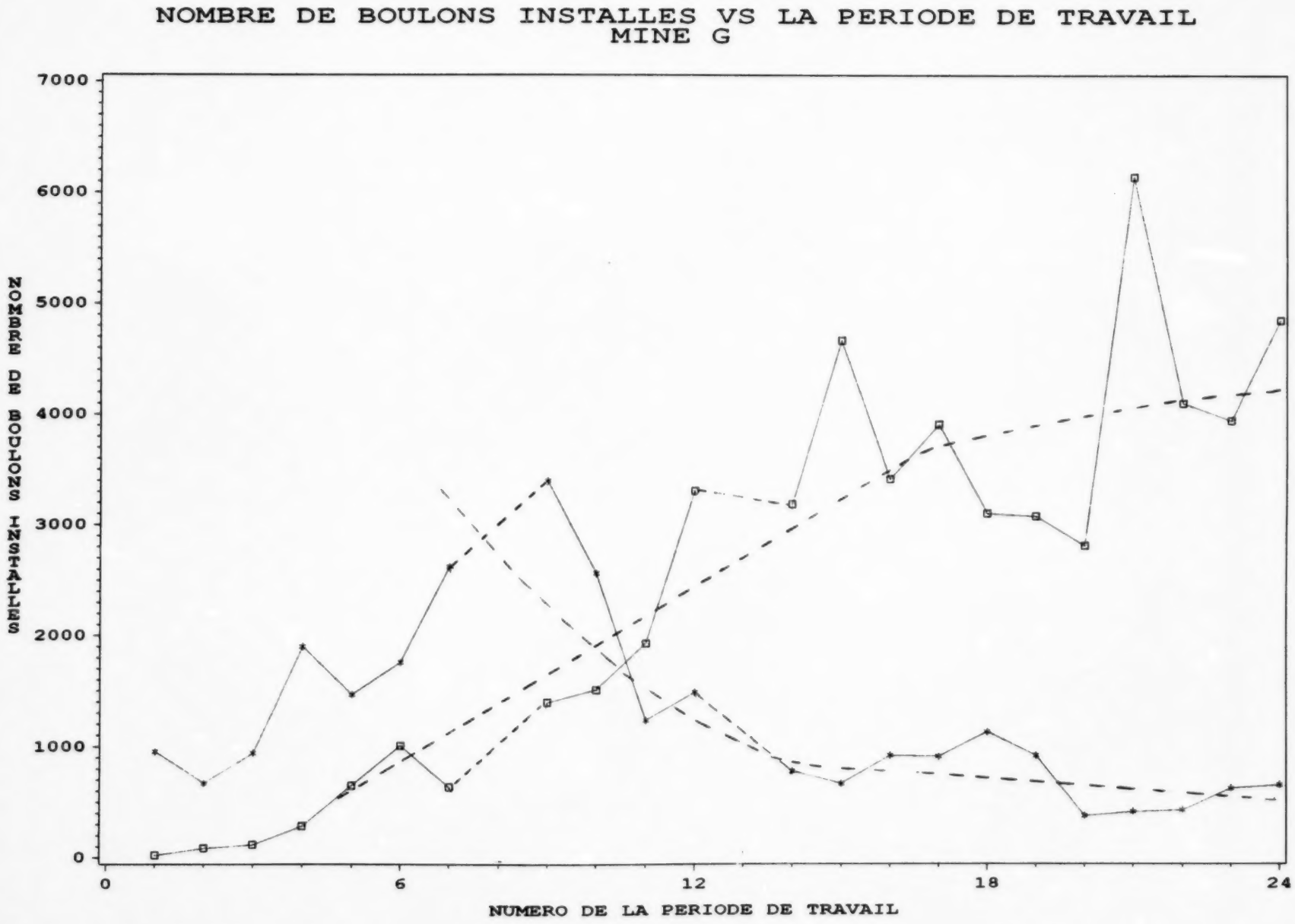


FIGURE G.15



ETOILE: BOULONS STANDARDS
CARRE: BOULONS ET GRILLAGE

Figure G.16

BOULONS PAR TONNE TOTALE VS LA PERIODE DE TRAVAIL
MINE G

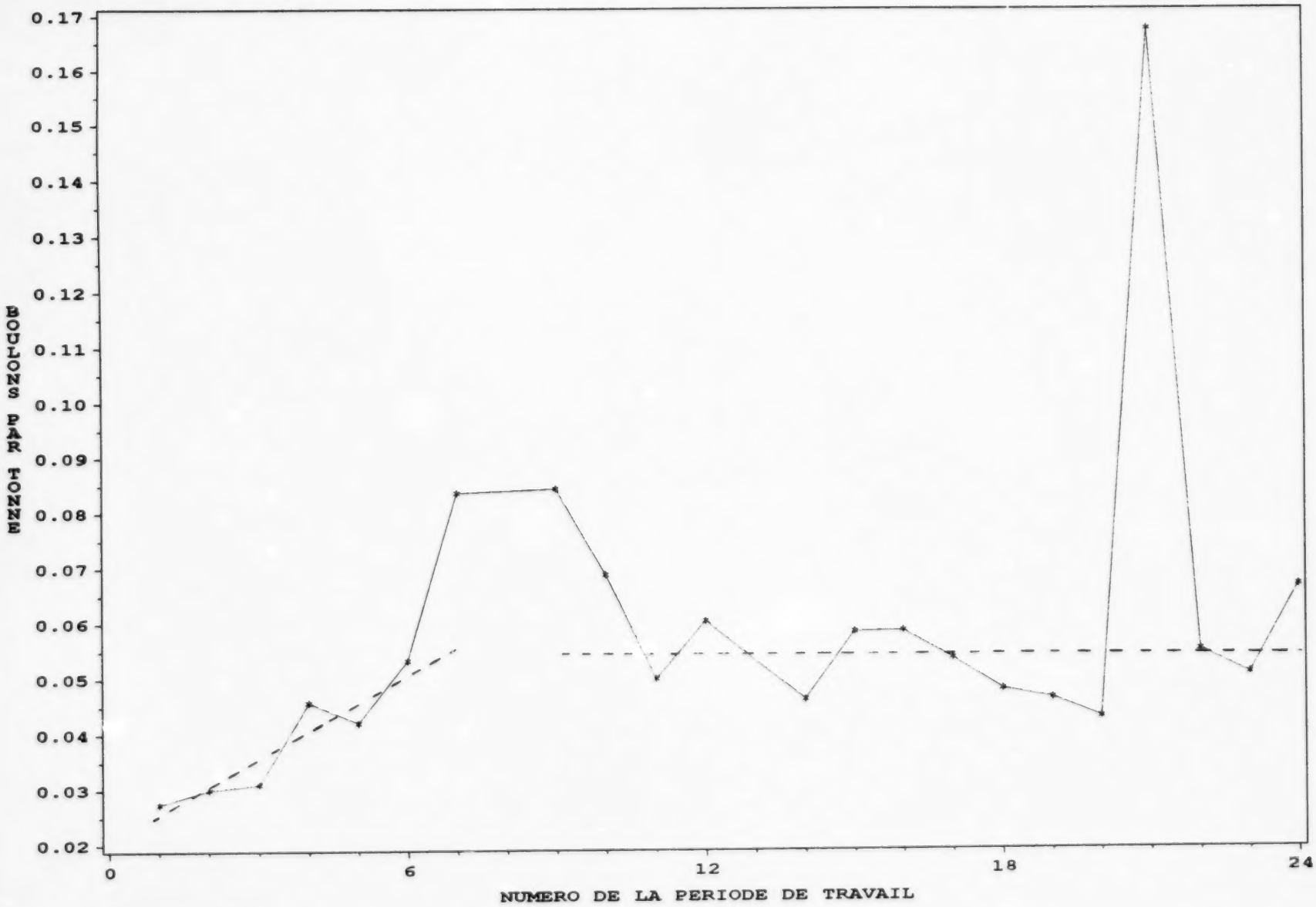


Figure G.17

RAPPORT STERILE/MINERAI VS LA PERIODE DE TRAVAIL
MINE G
RAPPORT STERILE/MINERAI
0.56
0.55
0.54
0.53
0.52
0.51
0.50
0.49
0.48
0.47
0.46
0.45
0.44
0.43
0.42
0.41
0.40
0.39
0.38
0.37
0.36
0.35
0.34
0.33
0.32
0.31
0.30
0.29
0.28
0.27
0.26
0.25
0.24
0.23
0.22
0.21
0.20
0.19
0.18
0.17
0.16
Développement initial
Exploitation
Développement dans zone nouvelle
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL

Figure G.18

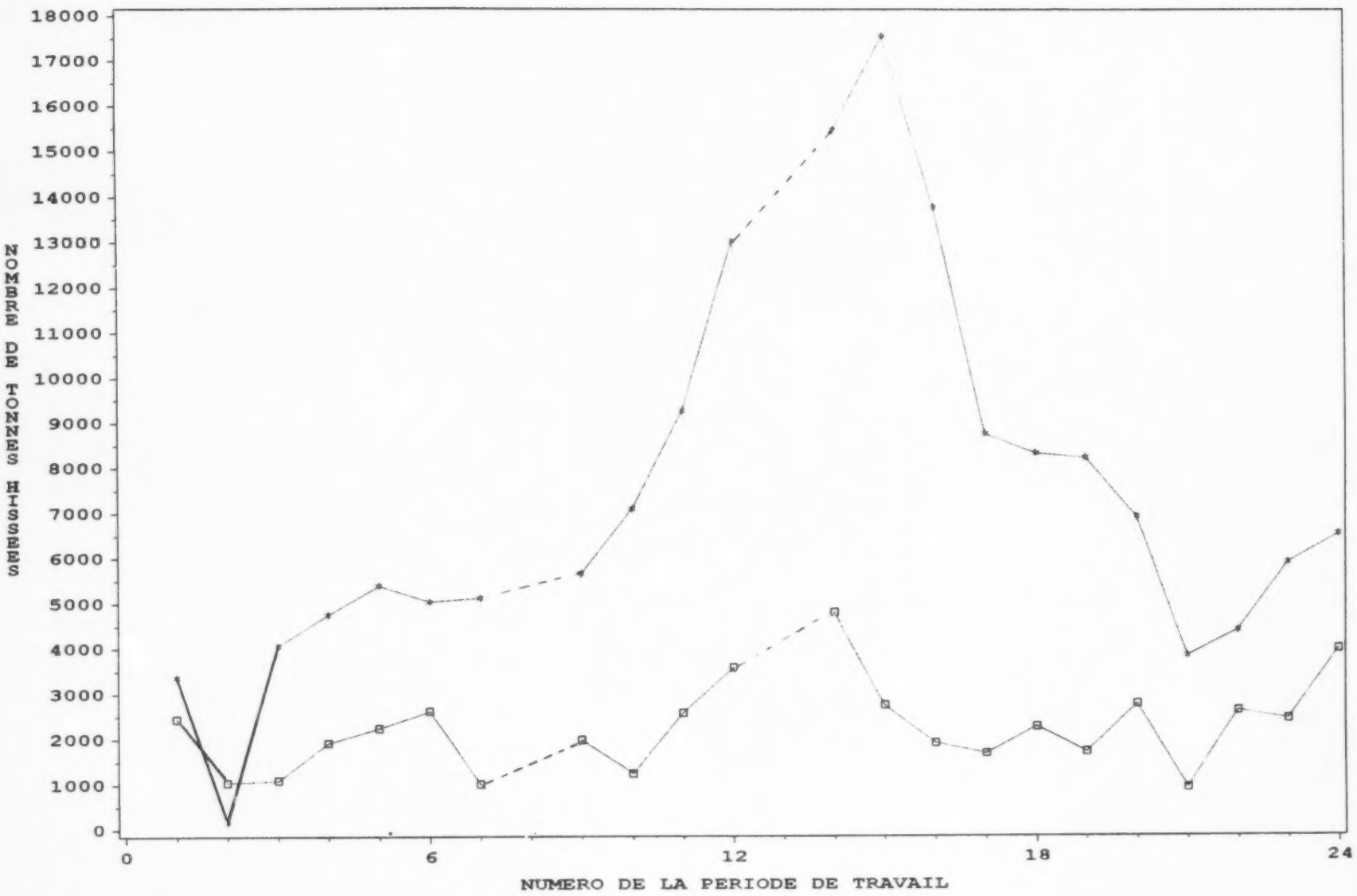

NOMBRE DE TONNES HISSEES VS LA PERIODE DE TRAVAIL
MINE G
NOMBRE DE TONNES HISSEES
18000
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
0
6
12
18
24
NUMERO DE LA PERIODE DE TRAVAIL
ETOILE: MINERAI
CARRE: STERILE

Figure G.19

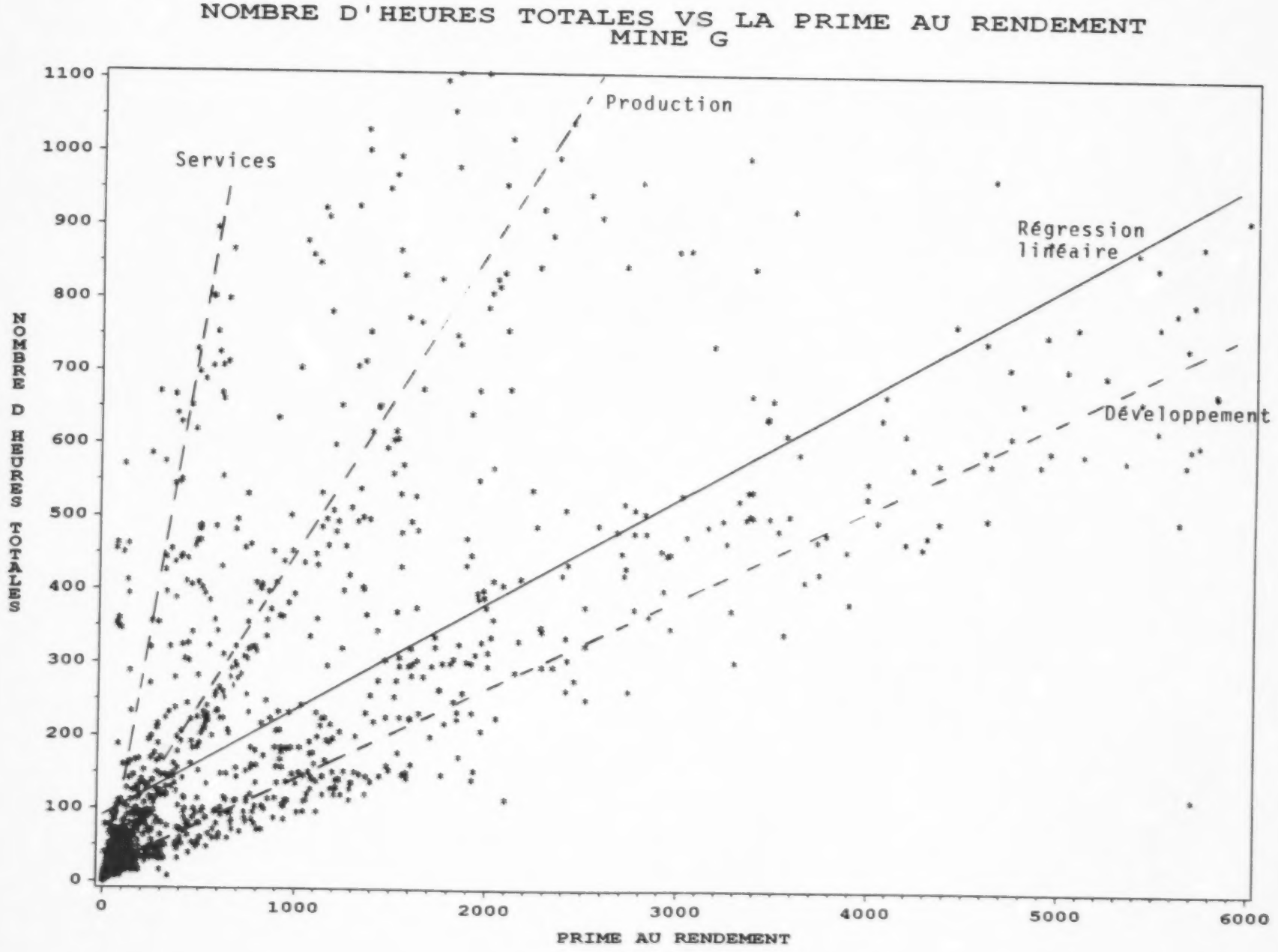

NOMBRE D'HEURES TOTALES VS LA PRIME AU RENDEMENT
MINE G
Production
Services
Régression linéaire
Développement
NOMBRE D HEURES TOTALES
PRIME AU RENDEMENT
0
100
200
300
400
500
600
700
800
900
1000
1100
1000
2000
3000
4000
5000
6000

Figure G.20

TONNES PAR QUART-HOMME VS LE NOMBRE DE MINEURS
MINE G

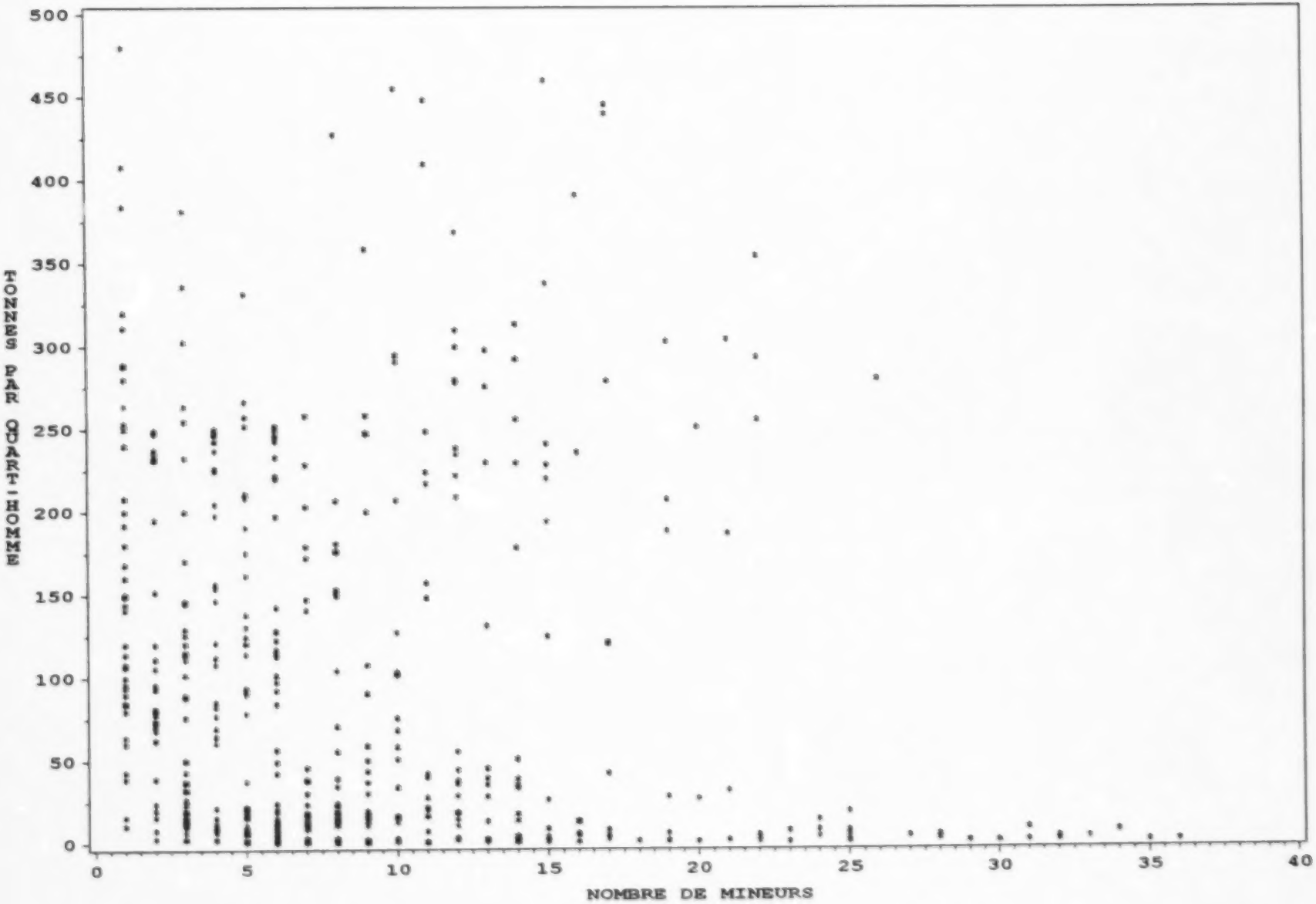


Figure G.21

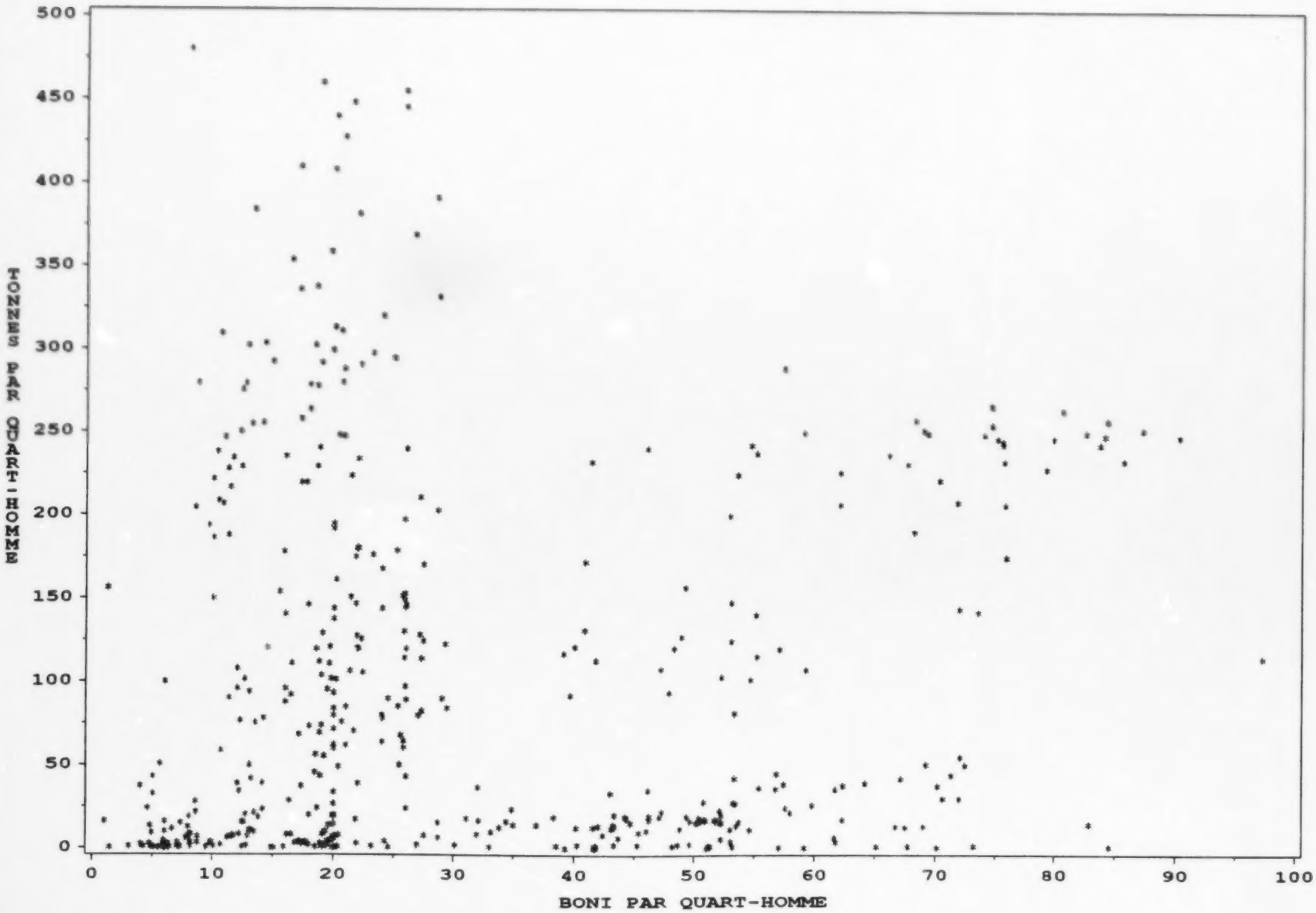

TONNES PAR QUART-HOMME VS LE BONI PAR QUART-HOMME
MINE G
TONNES PAR QUART-HOMME
500
450
400
350
300
250
200
150
100
50
0
0
10
20
30
40
50
60
70
80
90
100
BONI PAR QUART-HOMME

Figure G.22

NOMBRE DE BOULONS STANDARDS VS LE NOMBRE DE BOULONS (GRILLAGE)
MINE G

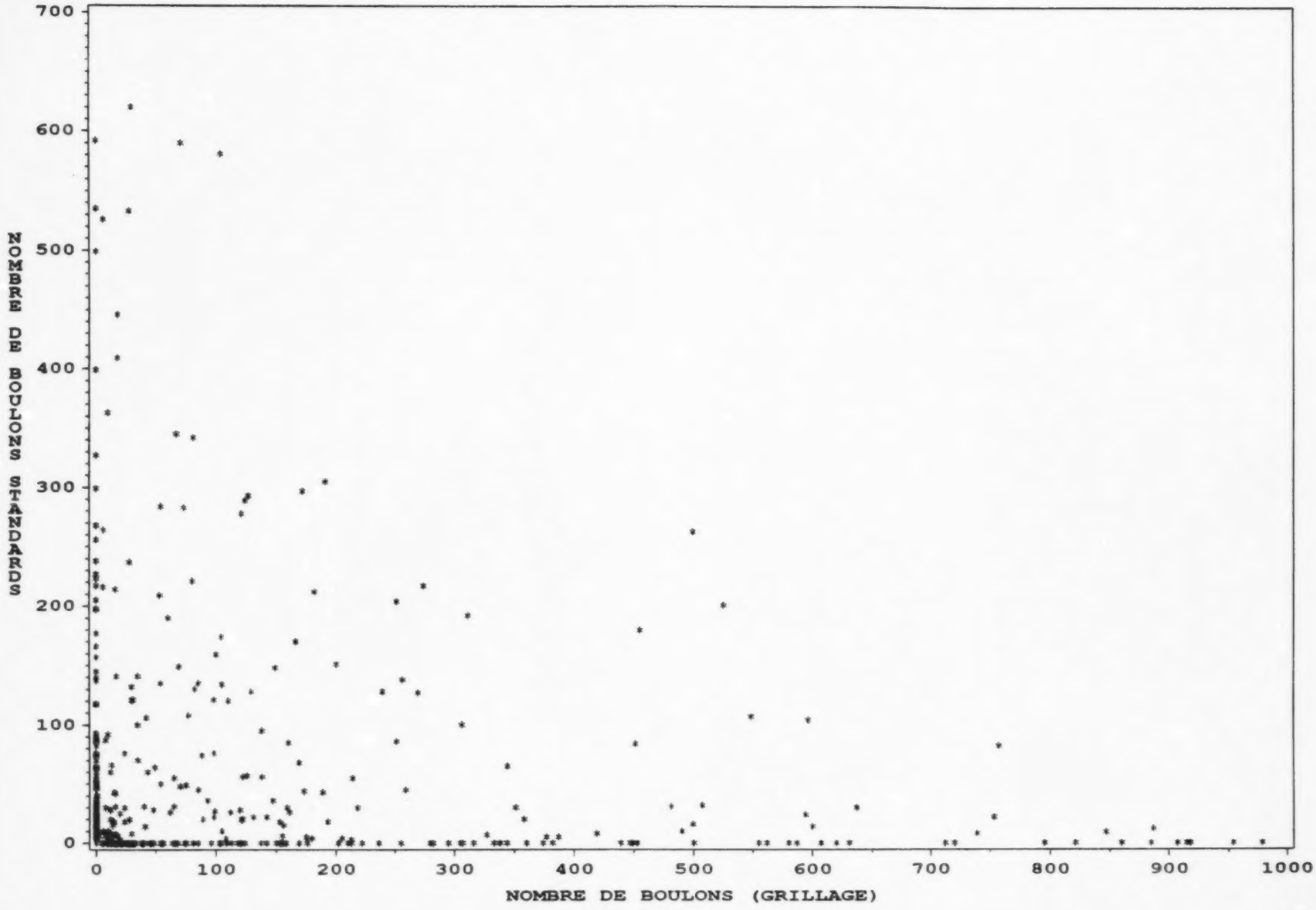


Figure G.23

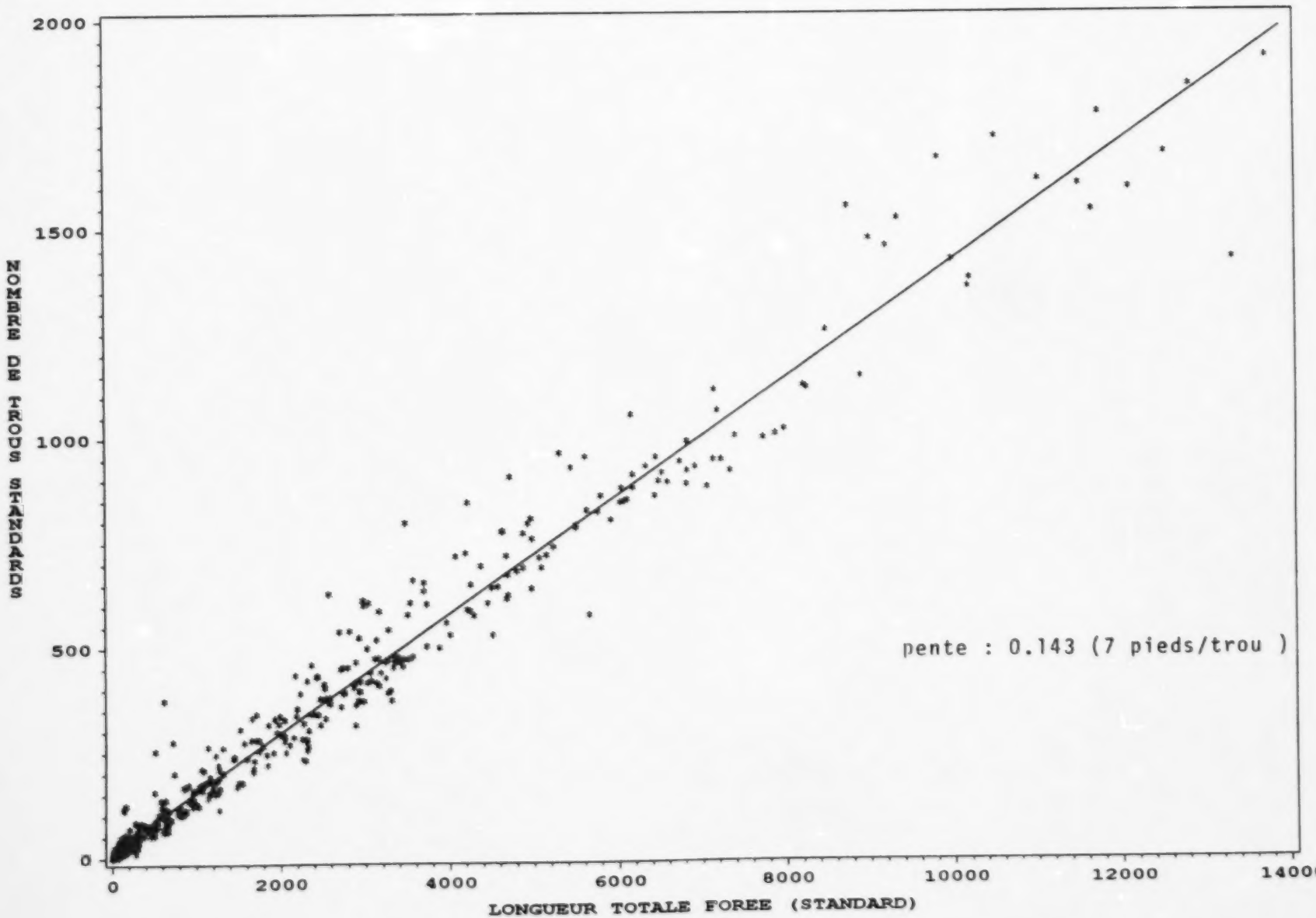

NOMBRE DE TROUS STANDARDS VS LA LONGUEUR TOTALE FOREE
MINE G
NOMBRE DE TROUS STANDARDS
2000
1500
1000
500
0
0
2000
4000
6000
8000
10000
12000
14000
LONGUEUR TOTALE FOREE (STANDARD)
pente : 0.143 (7 pieds/trou)

Figure G.24

NOMBRE DE TROUS (JUMBO) VS LA LONGUEUR TOTALE FOREE
MINE G

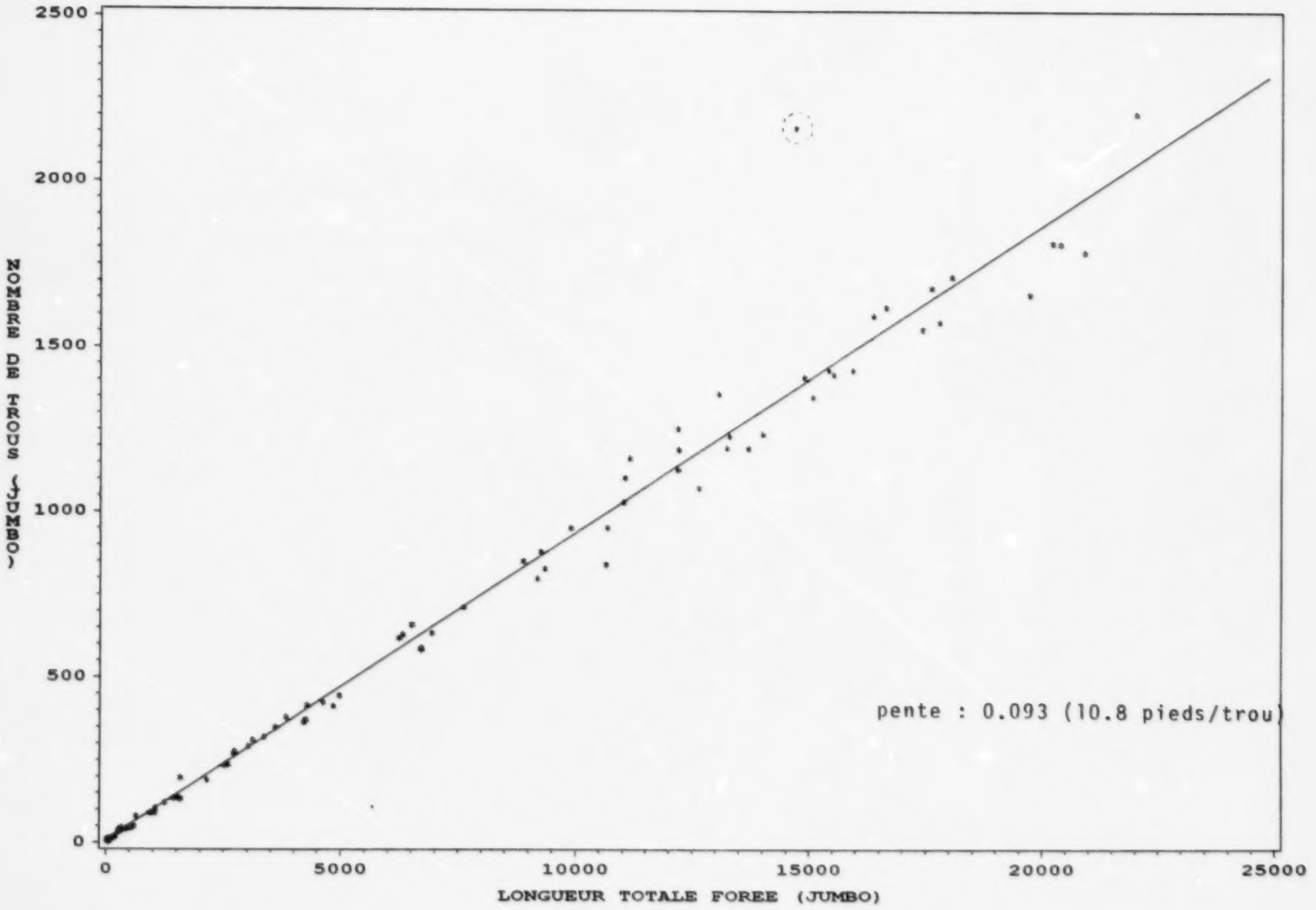


Figure G.25

BONI PAR QUART VS EXPERIENCE DES TRAVAILLEURS A LA MINE
MINE G

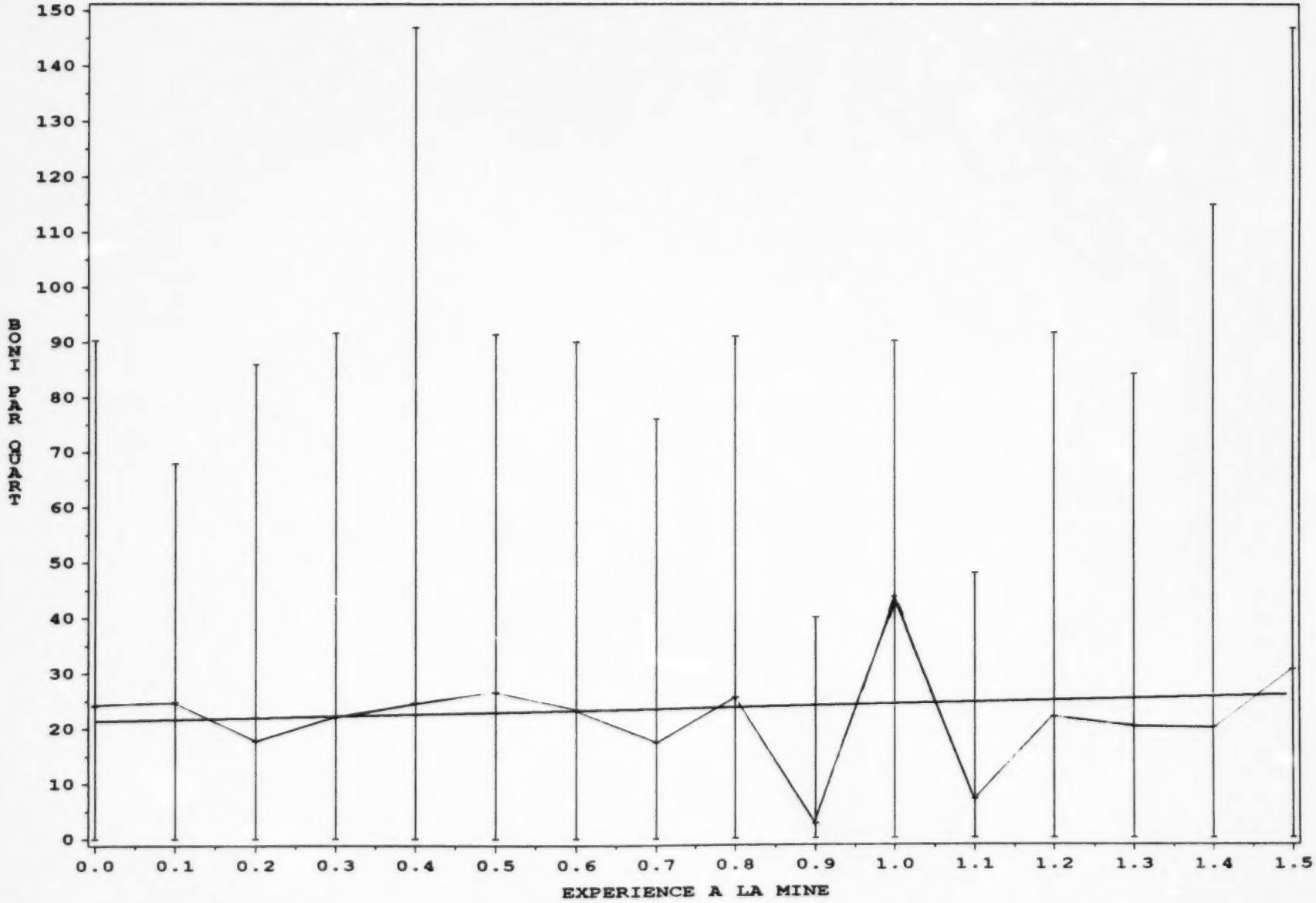


Figure G.26

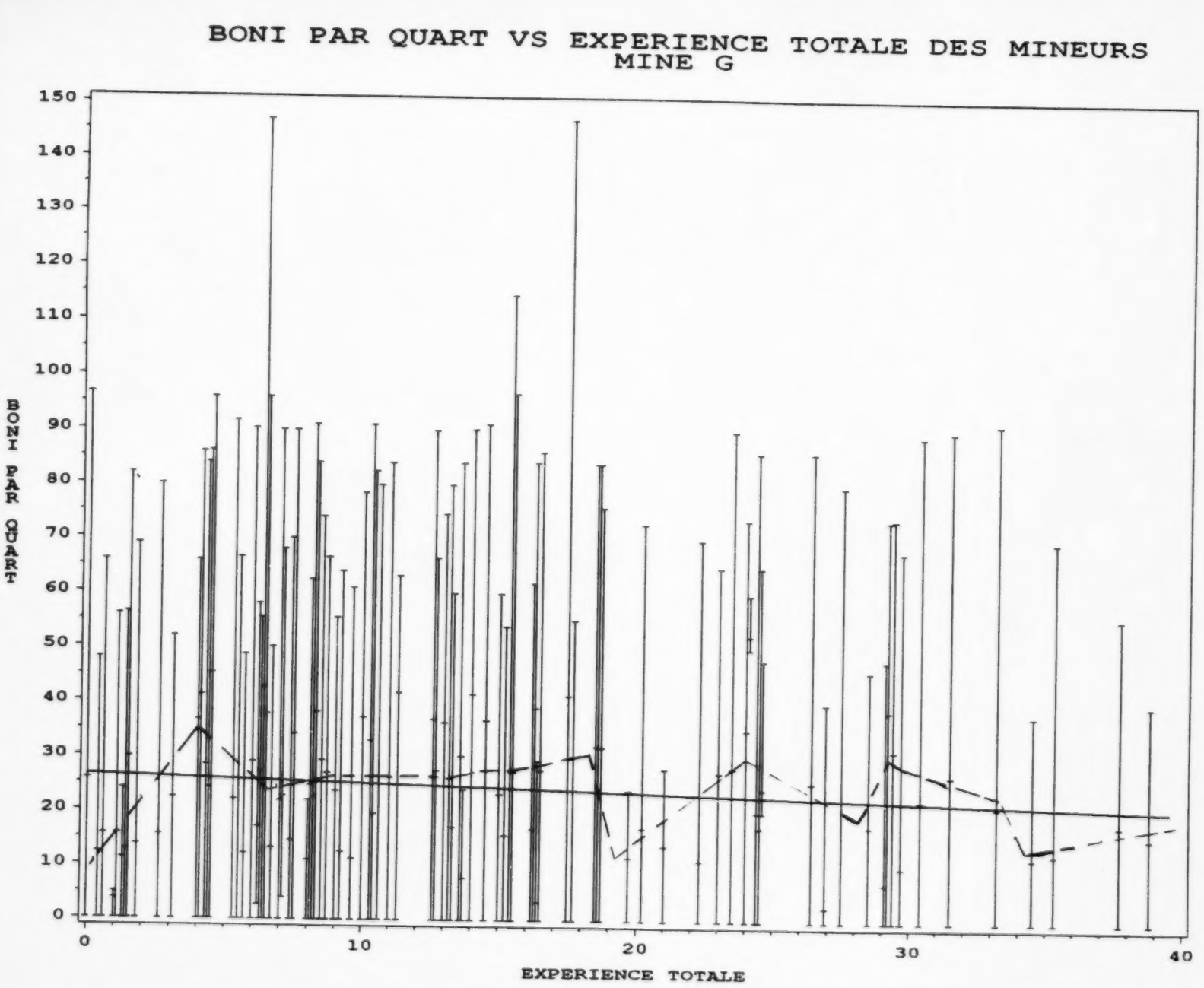

BONI PAR QUART VS EXPERIENCE TOTALE DES MINEURS
MINE G
BONI PAR QUART
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
0
10
20
30
40
EXPERIENCE TOTALE

Figure G.27

BONI PAR QUART VS L'AGE DES MINEURS
MINE G

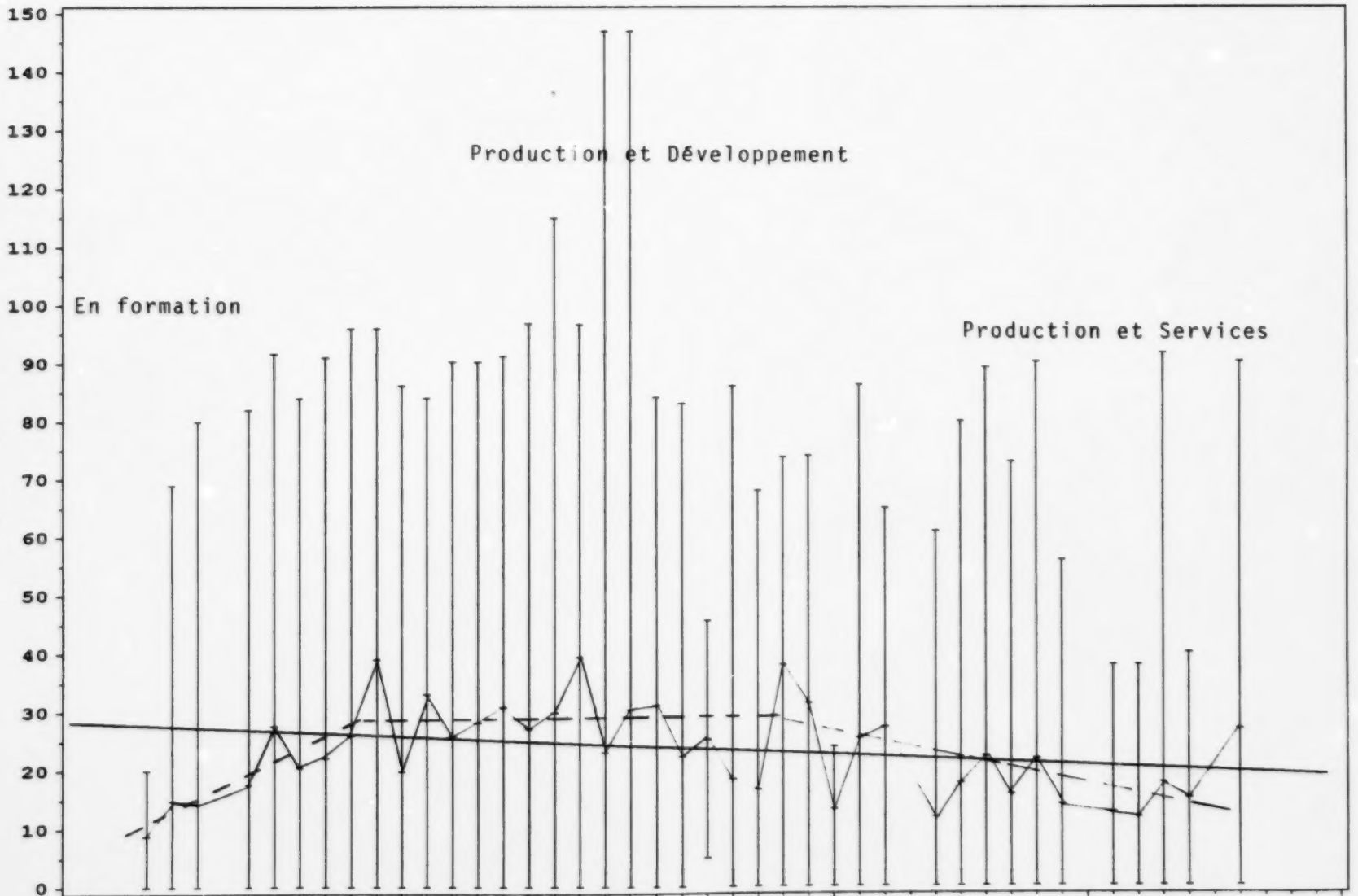


Figure G.28